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## An Address

ON

### THE TREATMENT OF CANCER\*

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I HAD the privilege of attending the meetings of the International Congress on Cancer in London last July, where delegates composed of the leading authorities on this subject from all the important countries of the world had assembled. Believing that the Fellows of this Academy are keenly interested in the problem of cancer, I will endeavour to put before you, as briefly as possible, some of the important facts brought before this Congress, and the present day opinion as to the treatment of this devastating disease.

I think it is now generally admitted that the death rate from cancer is steadily on the increase. The death rate from this disease in the Province of Ontario in 1902 was 54.8 per 100,000; in 1914, 69.6; in 1917, 79.3; in 1920, 85.0; in 1923, 90.0; and in 1927, 99.6. The annual increase in the death rate in Ontario is just over 3 per cent, and in the United States, about  $2\frac{1}{2}$  per cent. From the above statistics it will be seen that about 3,000 people die in the Province of Ontario annually from cancer.

From time to time new cures are put forward for this disease, arousing high hopes in the minds of the public which only lead to disappointment. A few weeks ago the newspapers announced a new treatment by Dr. Raymond Pearl, of the Johns Hopkins University, because of an article by him in the January number of the *American Journal of Hygiene*. Dr. Pearl states there is a definite and marked incompatibility between cancer and tuberculosis, and that these two dis-

eases rarely occur together in the same individual. Because of this antagonism and the occasional retrogression of cancer after the use of tuberculin, McCaskey suggested trying the injection of tuberculin into the cancerous tissue in inoperable cases, and this is now being tried out experimentally at Johns Hopkins, but it will be a long time before a definite report can be made.

Most of us remember very vividly an occasion some three years ago when Prof. Blair Bell of Liverpool did this Academy the honour of first making known to the world, through the medium of a paper presented before us, the result of his experiments with colloidal lead in the treatment of cancer, when he stated that he believed he had found a cure. Instantly a demand arose for this substance, and it was conscientiously tried out by surgeons all over the world. What is the present situation in regard to this form of treatment?

A number of men reported to the Congress their results with the use of colloidal lead in the treatment of cancer as advocated by Prof. Blair Bell. The conclusions of Dr. Basil Hume<sup>1</sup> of St. Bartholomew's, who gave it a thorough trial in twenty cases, may be taken as representative. They were as follows:—

1. No evidence was obtained that the use of lead by intravenous injection leads to the resorption of neoplastic tissue in man.

2. The average duration of life in patients treated by lead has been less than their expectation of life had they not been so treated. In several of the cases an immediate and grave deterioration in general health followed the treatment.

3. The histological appearances of the growth before and after lead treatment have been indistinguishable.

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Burton T. Simpson<sup>2</sup> found very soon after the administration of colloidal lead a severe toxic action on the blood, accompanied by severe secondary anemia. Nausea and vomiting were an almost constant accompaniment of the treatment, and in some cases there was a pronounced jaundice. The lack of clinical improvement, together with the severe anæmia, and the discomfort to the patients, caused him to discontinue this method. Some of the speakers were very severe in their condemnation of the use of lead, and the almost unanimous opinion of those present who had had experience with it was that it was a dangerous drug and that its use was not justified. Prof. Bell still believed in it, and obtained some small measure of support from one or two of his friends.

Until the last few years, surgery offered the only chance for a cure in this disease, and it still holds this position when dealing with cancer in most of the accessible positions in the body. But there are certain situations where radiation alone seems to offer a very good prospect of cure, and other places in which the best results are obtained by combining it with surgery, or what is called radio-surgery.

I should like to dispel, if possible, the great pessimism which prevails in the public mind in regard to the treatment of cancer. It is not now the hopeless disease it is generally thought to be, or once was. It is only so if allowed to progress to an advanced stage before relief is sought. If patients suffering from cancer present themselves for treatment while the disease is in its early stage, they can be promised a very reasonable chance of cure by surgery alone, and in certain situations, by radium alone or by a combination of radium and surgery. I am able to report a number of cases alive and well twenty-nine, twenty-five, and fifteen years after the removal of cancerous growths, and others, who, after freedom from recurrence for ten and fifteen years, eventually died of some other disease.

While the sum total of our knowledge in regard to cancer is being added to yearly by earnest investigators in laboratories all over the world, thus justifying our expectation that a simple remedy will ultimately be found, in the meantime it can be confidently asserted that there is no cause for despair, as we are now well equipped for treating this disease in its early stages. We are, fortunately, seeing many more cases in the incipient stage, owing to the educational campaign

that has been carried on and to improved methods in diagnosis.

A good way of educating the public would be through the medium of the great insurance companies. If they would give reduced rates to their insured who present themselves at regular intervals for examination it would facilitate early diagnosis and greatly increase the number of cures of this disease.

#### RADIUM TREATMENT

I should like now to call your attention to the advances made in recent years in connection with the use of radium for the cure of cancer in various situations. The best results are obtained with epitheliomata of epidermal origin, *e.g.*, epitheliomata of the skin, mouth, tongue, nasal fossae, pharynx, vagina and cervix uteri. In the case of the lip, tongue and cervix uteri it is now conceded that a higher percentage of local cures can be secured by radium than by operation, and that a percentage of inoperable cases of epidermal cancer can be cured by radium, especially those affecting the fauces and cervix. In the glandular extensions in this group considerable advance has been made by the employment of both surgery and radium. The effective treatment of cancer depends upon its extent when the surgeon first sees it, and therefore, upon the early diagnosis of the disease. While surgery offers the best hope of cure of cancer in most accessible situations, from recent developments in the application of radium it is clear that radium will have to be employed to a much greater extent by the surgeon.

Sir Charles Gordon-Watson<sup>3</sup> thinks that the whole future of successful radiation of cancer depends on our ability to administer an optimum dose in any individual case, and says that the main factors concerned are: (1) to estimate the amount of tissue to be destroyed and to establish a unit of dosage and time per cubic centimetre; (2) to work out a resistance ratio to radium according to the type of cancer and the part involved; and (3) to find some test which will indicate individual reaction to radium. In other words, if we are to advance on scientific lines we must get beyond the province of guesswork. At the present time we are mainly guided by empiricism. He says that he regards 10,000 mgm. hours as roughly a maximum dose, and 300 hours as approximately a maximum time, and 2 mgm. per c.c. as a unit. For example, a growth requiring 25 units for complete barrage



gives a 50 mg. radium dose. This rough standard is based upon the results of treatment. The needles he uses are filtered with 0.5 mm. platinum, and vary in length from 6 centimetres to 2 centimetres. The 3 mgm. needles are used for lymphatic areas, and the 2 mgm. for thicker portions of growth, and 1 mgm. for the thinner.

In *cancer of the rectum*, Dr. Neuman, of Brussels, first suggested the open operation in order to bring the radium in direct contact with the growth and the lines of lymphatic spread. I had the opportunity of seeing this practice carried out by Sir Charles Gordon-Watson at St. Bartholomew's last summer. He reports having treated twenty-seven cases of cancer of the rectum with radium salt in platinum needles by the following methods:

(a) *Open Perineal Route*.—The complete exposure of the rectum from behind is obtained by the removal of the coccyx, and the division of the junction line of the levatores ani. The portion of the rectum involved in the growth is thus mobilized. The anus is sutured to avoid risk of wound contamination. The cubic capacity of the growth is estimated, and an attempt made to give a uniform barrage of parallel rays to all parts of the growth, with special attention to the free margin, on the basis of 2 mgm. of radium per c.c. of growth. In large inoperable growths considerable difficulty will be experienced owing to the inability to secure adequate exposure; this is much easier to obtain in cases involving the tongue and the breast.

An important feature of the open perineal method is the attack upon the lines of the lymphatic spread. Before dealing with the growth, the degree of glandular spread in the retro-rectal space, and upwards along the inferior mesenteric vessels is investigated. Needles containing each 3 mgm. of radium are passed up alongside the mesenteric vessels, two or more according to whether there are palpable glands or not. In the same way the lines of lymphatic spread along the middle and inferior hæmorrhoidal vessels are dealt with.

(b) *Vaginal Route*.—This route may be employed to attack the growth from the front, combining it with a short-time exposure with a 50 mgm. tube inside the rectum.

(c) *Abdominal Route*.—This route is employed for growths which extend above the peritoneal reflection, either alone or in combination with perineal, vaginal and intra-rectal radiation. Sir Charles finds the results with this method en-

couraging. Briefly, the method is as follows:—In the Trendelenberg position, after midline incision and examination of the liver, the intestines are packed off and the meso-rectum and meso-sigmoid examined for glandular metastases. Where required, needles are passed into the mesentery in apposition with the glands; the growth is then attacked systematically and a uniform barrage secured. The pelvic colon is then fixed ready for colostomy, but not opened. The needles have threads and beads attached which are brought out through the abdominal wall and sutured beneath the skin. The radium is removed after from seven to fourteen days, according to the amount employed, without reopening the abdomen. I have employed radium gold seeds in a similar way and left them *in situ*. The colostomy is left unopened for as long a period as possible. In one of his cases the growth so speedily disappeared that it was not necessary to open the colostomy, although obstruction was imminent. In another case he delayed opening the colostomy for three weeks. He states that rectal growths in patients under thirty years of age, unless seen in the very earliest stage, are beyond all hope of cure, either by surgery or radiation.

Distant radium therapy may be used by employing a wax shield moulded to the perineum. It is valuable for operable and inoperable cases of squamous-celled carcinoma involving the anus.

*Radiation preliminary to excision*.—He cites a case in which he employed vaginal radiation for the anterior wall of the rectum which was adherent to the uterus and had perforated into the vagina. Nine months later the perforation had healed, the growth was much reduced in size and was no longer attached to the uterus, and the general condition of the patient had greatly improved. He excised the rectum ten months after the radium had been employed, with a good result.

*Radiation in addition to excision*.—He has employed radium through the abdomen at the time a colostomy was performed, to attack glandular enlargement in the lower pelvic meso-colon, prior to excision of the rectum by the perineum. In most cases the colostomy need not be opened before the radium is removed. If radon gold seeds are used they may be left *in situ*.

Sir Charles says, in a recent personal communication:—

"I am now using platinum and gold seeds for cases in which the anterior wall of the rectum is involved. I insert the seeds through the skin of the perineum, directing the introducer to the area required with the finger in the rectum, keeping a sound in the urethra. In this way one can secure uniform barrage without actual penetration of the rectum. The open method with needles which you saw is, I think, the best for a growth involving the posterior half of the rectum. I am now also putting in both needles and seeds into growths that extend above the peritoneal reflection through the abdomen, and when I do the colostomy I put seeds in the pelvi-rectal mesentery. I do not use threads for seeds for the rectum, or prostate, or peritoneum. It is important that the filtration of these seeds should be  $\frac{1}{2}$  mm. of platinum, or the equivalent in gold. With regard to the lymphatic glands in the neck, where they are operable I believe in removing them and employing surface radium on Columbia paste, but I have introduced seeds into inoperable glands and subsequently employed surface radium."

There is no doubt that cancer of the rectum can be cured by operation if it is undertaken in the early stages, except in the very young, providing the patient will submit to a permanent colostomy and survive the radical operation. If an early diagnosis was the rule instead of the exception, the surgical results would compare favourably with those of cancer in any other region of the body. It is well known that glandular and visceral metastases occur late in the disease. The ideal surgical treatment of rectal cancer is colostomy, followed by perineal excision for mobile growths in the rectum proper, reserving the abdomino-perineal operation for growths at or above the recto-sigmoidal angle.

Until we can measure the action of radium with some accuracy, Sir Charles believes we are in duty bound to practice radical surgery, mutilating though it is, reserving radium for the inoperable cases, for the relief of symptoms, and the prolongation of life. In other cases, where the growth may be operable, but the patient is considered unsuitable for radical surgery on other grounds, then radium holds out great prospects of cure and should always be employed.

Neuman<sup>4</sup> gives the results of radio-surgical treatment of cancer of the rectum after five years, as follows:—

1. In cancers of the ampulla of the rectum, clinically operable, his results are no better than those obtained by surgery alone. He therefore thinks that a circumscribed, mobile and operable cancer of the rectal ampulla comes within the exclusive province of surgery.

2. With regard to the inoperable, very extensive and fixed cancers, our method of radiotherapy, combined with the surgery of access, is of considerable value. He claims that it produces local changes, disinfection of the tumour, hemostasis and sclerosis, and retards the growth of the neoplasm. He expresses the hope that we may soon have an apparatus for using gamma rays at a distance, sufficiently handy, powerful and capable of

regulation to be able to arrest the progress of cancer and to sterilize its lymphatic territory.

#### DEEP X-RAY THERAPY

Dr. Levitt<sup>5</sup> has been carrying out research with deep x-ray therapy in malignant disease and has treated seventeen cases of inoperable malignant disease of the rectum. Most of these cases were considered unsuitable for operation or radium. The results have been disappointing. Some temporary relief of symptoms was obtained, but no marked change was effected in the growth.

*Cancer of the breast.*—Radium appears to be a more effective agent than x-ray in dealing with mammary cancer. The consensus of opinion at the Congress would seem to be that it is unsafe to trust radiation alone in cancer of the breast. According to Dr. W. Sampson Handley's<sup>6</sup> statistics, operation gives 48 per cent of cases free from recurrence at the end of three years, although local and axillary recurrence, formerly so common, is almost abolished. From the fact that recurrences took place in the supra-clavicular glands, or at the inner ends of the first, second, third and fourth intercostal spaces, he inferred that the internal mammary chain of lymphatic glands had already been infected when the cases were operated upon. If this is so, then operation, plus x-radiation, is incompetent to deal with the disease. He has, therefore, adopted the practice of burying radium tubes along the lines of the internal mammary glands at the time of operation, and I have one very striking example of unexpected freedom from recurrence in a patient in whom I adopted this treatment.

The patient was a woman, 45 years of age, with very advanced cancer of the breast, involving the skin, with large palpable glands in the axilla and supra-clavicular region. A complete Halstead operation was performed and radium inserted along the internal mammary lymphatic glands, as well as supraclavicularly. In the ordinary way, judging from my experience with surgery and x-radiation, this patient had a prospect of about one year and a half. She has now had four years of freedom from any evidence of recurrence, plays golf and badminton, and is to-day in better health than she has been for many years.

Even in very advanced breast cancer it is necessary to remove the bulk of the disease before proceeding with the use of radium. In recurring cases of breast cancer, operation is useless, while radiation treatment by buried radium tubes offers a possibility of long relief, and even often of cure, especially in sternal and parasternal recurrence. In the case of recurrence in the sternum, buried radium tubes should be employed on the encircle-

ment principle, and in addition, radon seeds, or radium element in platinum screens introduced behind the posterior surface of the sternum to deal with the post-sternal or mediastinal growth. He states that an average of 200 mgm. of radium element, screened by 1 mm. of platinum, must be buried for twenty-four hours.

While nothing can be promised to the patient beyond relief of pain in the case of sternal recurrence, yet he has cases of patients in good health twelve years after such treatment. In the case of supra-clavicular recurrence, the combination of excision and the use of buried radium tubes gives the best results, and he reports a case of this kind occurring a year after the removal of the breast, in which he removed the gland and buried a radium tube, and the patient lived fourteen years.

*Cancer of the Buccal Cavity.*—Although the primary growth in the mouth disappears very soon after the use of radium, the treatment of the cervical glands presents difficulties which can only be overcome by a combination of surgery and radium therapy. The consensus of opinion would seem to be that radium treatment, as far as the primary growth in the mouth is concerned, is superior to that of surgery. Bland-Sutton<sup>7</sup> gives the mortality rate for cancerous tongues at ten per cent, and an average duration of life from six to twenty-four months from the time that cancer is recognized. In his experience cases are alive and well four years after treatment by radium.

The common type of growth in the mouth is squamous-celled carcinoma, and the best results are obtained in those cases where the blood supply is the richest, and the lymphatic drainage freest. The more rapidly the tumour grows, the more sensitive the growth is to irradiation. The palate, uvula, pillars of fauces, and buccal mucosa, when the seat of squamous-celled carcinoma, respond very rapidly to radium treatment. The difficult problem is the treatment of the involved lymphatic glands. Dr. Cade<sup>8</sup> treats the primary lesion first, and then after a period of three weeks, the cervical area. His treatment now is based on the principle of prolonged irradiation with small doses of radium well screened. With the older method of larger doses for a shorter period, the cells not undergoing mitosis escaped the lethal dose and after a time became active again.

*Cancer of the tongue.*—Before introducing radium it is essential to carry out a strict toilet of the mouth. All carious teeth are extracted,

tartar is scraped, gold bridges and metal fillings, which might lead to necrosis, must be removed. The use of seeds is much simpler than the older method with needles as they need not be tied in. The palate and the lower jaw are protected by means of a dental apparatus made of vulcanite or stent, and containing 1 mm. of lead. The palate, uvula, and pillars of the fauces are treated in a similar way to the tongue.

*Cancer of the tonsils.*—The irradiation of the tonsil is made more efficient by resecting subperiosteally the ascending ramus and angle of the jaw, as advocated by Ledoux<sup>9</sup> of Brussels. This permits of irradiation of the tumour from the outside as well as from the buccal cavity.

*Cancer of cervical lymphatic glands.*—Here surgery is given the preference, and operation offers the best chance of preventing metastases. Dr. Cade believes that a Crile's block dissection of the neck is imperative in all cases, even in the absence of palpable glands. The operation should aim at the systematic eradication of all the glands, the deep fascia, the sterno-mastoid muscle, and the internal jugular vein, under regional anaesthesia. If any glands show secondary deposits, the neck must be irradiated.

Regaud<sup>10</sup> advocated the use of Columbia paste collars for irradiation, to commence two weeks after the removal of the growth, with 70 mgm. of radium in a number of tubes of 2 mgm. each, with 0.65 mm. of platinum, and to be continued for a period of two weeks. The treatment is intermittent, the patient receiving sixteen hours daily.

*Treatment in inoperable cases.*—The mass should first be removed as much as possible by operation, even if this necessitates cutting through malignant tissue. This is done to diminish the severe reaction which accompanies the disappearance of large masses of malignant tissue, and also because the smaller the mass the better the results obtained.

*Treatment of cancer of the cervix uteri.*—If hysterectomy is to be performed, then the Wertheim operation is generally accepted as the best. Prof. Regaud in his paper at the Congress at Rome stated that the rapid advance made in the radium treatment of this disease is due to the anatomical structure of this part of the body, which is particularly favourable to this form of treatment.

Dr. Lane-Clayton<sup>11</sup> summarizes the results in

6,661 cases operated on by hysterectomy and found that there were 34.1 per cent alive at the end of five years. In 1,117 "operable" cases treated by radiation only, 35.8 per cent were alive at the end of five years. Heyman<sup>12</sup>, of Stockholm, gives the average survival rate at five years of 3,659 cases treated by hysterectomy in twenty-four different clinics as 35.6 per cent. He reports 34.9 per cent alive at the end of five years in a series of 960 "operable" cases treated by radiation alone in twelve centres.

It may be said, therefore, that from a purely statistical point of view the two treatments are equally efficacious in cases where the disease is still in an operable condition.

I think there are other considerations which will influence us in the choice of treatment. While a surgeon with many years of experience in performing Wertheim's hysterectomy may get as good results from this as with radium, the younger man must have a considerable initial mortality while gaining this experience. Wertheim's hysterectomy is one of the most difficult operations in surgery, with a mortality rate, even in the hands of experienced surgeons, of about ten per cent; whereas the initial mortality due to radium treatment for those patients unfit for operation is practically nil.

There is another important factor which will influence the surgeon and patient alike, *viz.*, a comparison of the immediate results of radiotherapy and hysterectomy. After hysterectomy the patient will be in the hospital for about a fortnight, and it is usually six weeks to two months before she is capable of carrying on her usual occupation. In the case of a vaginal application of radium, the patient should be able to follow her usual occupation in a week or ten days. As soon as we have sufficient radium available in Toronto I have definitely decided to employ radiation in the treatment of cancer of the uterus, and to discontinue hysterectomy.

*Cancer of the prostate.*—The treatment of carcinoma of the prostate is primarily surgical. Radium therapy has a place in its treatment as a palliative measure in inoperable cases, and gives beneficial results in the arrest of hæmorrhage and relief from pain. The best method of applying radium to the prostate is by the perineal route through an open perineal operation, and the introduction of radium tubes or needles into the prostate. This necessitates a preliminary suprapubic cystostomy, which has many advantages,

chief of which is the relief of pain from spasm of the vesical sphincter during irradiation.

Clearly radium should be in the hands of the surgeons and be exclusively used by them, except for superficial growths, when dermatologists or radiologists may be called upon to use it. Where radon seeds or radium element have to be embedded in a growth, or placed along the course of the lymphatics it will be obvious that an intimate knowledge of the anatomy of the part is essential, as well as a familiarity with surgical technique. Radium should be the handmaid of the surgeon and a part of his armamentarium just as the cautery is. He will, however, require to prepare himself for its use by making a study of the physical properties of radium, and be familiar with the dosage and the methods of application.

#### CANCER RESEARCH

I should like briefly to enumerate what is being done to combat this disease in the various parts of the world.

At the end of 1922, the Minister of Health in the British Government appointed a Department Committee to consider available information with regard to the causation, prevalence and treatment of cancer, and to advise as to the best method of utilizing the resources of the Ministry for the study of these problems. In 1923, the British Empire Cancer Campaign was initiated—a voluntary organization with its centre in London—the object of which is "to correlate and extend all existing efforts in fighting cancer." This organization distributes one and one-quarter million dollars' worth of radium yearly to research institutes for cancer. It supplied St. Bartholomew's with four grams of radium and made possible the excellent work there of Sir Charles Gordon-Watson.

In 1923 the League of Nations Health Committee decided to set up a Cancer Commission.

In France they have the Centres Anti-Cancereux, and in Italy, the new Institute Victor Emmanuel III. The Government of Belgium has given a subsidy of one million gold marks for cancer research. In the United States they have (a) The American Society for the Control of Cancer; (b) a Cancer Committee in connection with the American Medical Association; (c) a Cancer Committee of the American Public Health Association, formed in 1927; (d) various special hospitals for clinical research and the treatment of cancer, *e.g.*, in Boston, the Collis P. Huntington



Memorial Hospital for Cancer Research, and others in most of the large cities.

The Swedes, who recently collected one million dollars as a Jubilee Cancer Fund, purchased 6 grams of radium for presentation to King Gustav on his 70th birthday, and he promptly dedicated it to the control of cancer. Sweden now has 18 grams of radium. An institution for the treatment of cancer, known as the "Radiumhemmet," was established in Stockholm in 1910 as an outcome of the study of the cancer problem in Sweden, and its influence is now worldwide. The "Hemmet," which is conducted by The Stockholm Cancer Society, receives an annual grant of money from the municipality of Stockholm, and another from the Swedish Government.

Toronto is sadly behind other cities in its supply of radium, having, I believe, less than one-half of one gram, and this small amount is divided up amongst eight individuals and one hospital. It is impossible to secure emanations here, as for this purpose it is necessary to have at least 2 grams of radium. I have been using emanations in gold seeds for implantation which I have obtained from outside sources. These emanations were formerly collected in glass and platinum tubes, but now gold tubes are used which possess the advantage (as do platinum tubes) of eliminating the very soft beta rays, which set up a rather severe reaction in the tissues. These small gold radon seeds may be implanted into and about malignant growths and left *in situ*.

Radium emanations possess greater flexibility in treatment, and comparative freedom of danger from loss or theft, and is the state in which radium is best adapted to the treatment of cancer in certain situations, *e.g.*, the rectum. It has been found that radium in this form loses 16 per cent of its power every twenty-four hours, making it desirable that it be produced in the vicinity in which it is to be used. Both radium as an element and its emanations, collected in tubes, are now regarded as necessary in the treatment of cancer. It is so expensive that it should not be left to the enterprise of the individual doctor to obtain a supply.

Since the use of radium in the treatment of cancer has got past the experimental stage, and its value, alone or in conjunction with surgery, is now universally acknowledged, surely it is time something was done to secure and make available enough of this element to take care of the cases of cancer that are occurring within our own borders without having to appeal to the

United States, as I have had to do. I feel confident that it is only necessary to make our needs known to ensure a ready response from our always generous citizens. If a very poor country such as Sweden, with a population of 6,000,000, can afford 18 grams of radium, which amount she evidently thinks she needs, surely this very rich Province of Ontario, with a population of more than half that of Sweden, (Ontario's population was estimated for 1928 as 3,229,000) should be able to afford half this amount. At the present rate this would cost about \$500,000.

Now, how is this money to be obtained? First of all, it should be pointed out that radium does not wear out nor deteriorate, and that, therefore, it is like investing in diamonds, with this essential difference that the latter are only of decorative value, whereas radium is constantly engaged in giving off, without any appreciable loss to itself, a substance which can be employed to cure or retard growths which are destroying mankind.

A fund of nearly \$4,000,000 was recently obtained for Industrial Research in the Province of Ontario, one-half of which was donated by generous citizens, and the other half provided by the Government of this Province. If this large amount can be obtained for this very necessary and important work, having to do with our material welfare, surely one-eighth of this sum can be obtained for the saving of human lives. Could we not raise this money in the following way? (1) By a donation from the Ontario Government. (2) By a donation from the Municipality of the City of Toronto. (3) By private subscriptions. This radium should be kept in some central place, *e.g.*, in the Physics Department of the University of Toronto where a physicist would be available to superintend the preparation of the radon seeds, and be under the control of a Trustee Board elected jointly by the Government, the City, and the Benefactors, for the use of the medical profession. Patients who could afford to pay for the use of the radium would be required to do so, and those without means would be supplied free. The revenue derived from radium could be profitably employed in clinical research on cancer. Further, I am going to propose that a "Cancer Hospital" be established in Toronto for the investigation and treatment of cancer. Such hospitals are now to be found in many cities in the United States, in the British Isles, and in Europe, and are performing a most useful service for humanity. Canada has attained an enviable reputation in research

owing to the epoch-making discovery of Banting, and in the Banting Foundation we now have research laboratories well equipped and functioning.

While searching for the cause, we cannot afford to be behind in *clinical* research. A suitable hospital for this purpose could probably be built and equipped for \$300,000, and with the supply of radium referred to, would enable us to adequately take care of the cancer problem amongst us. This hospital would not only be equipped with every means of diagnosing cancer at a very early stage, when there is most hope of its being cured, but it also would have the facilities for applying the most modern treatment.

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## An Address

ON

## PULMONARY TUBERCULOSIS OF CHILDHOOD AND ADOLESCENCE AND ITS DIFFERENTIAL DIAGNOSIS\*

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ANY attempt to diagnose a manifestation of disease involves in some measure a classification based upon a description of the varieties of the lesion and their differentiation from those due to other diseases. The much discussed classification of tuberculosis of adults has, however, been concerned chiefly with descriptions of the intensity and extent of involvement and the association of each stage with symptoms of varying degrees of intensity. The types of this lesion arise in the same area and their complexity is less one of form, though this is sufficiently varied, than of the disparity between the anatomical extent of the lesion and the severity of the symptoms it produces.

The types of pulmonary tuberculosis in children up to the age of puberty are more varied in the site and conformation of the lesion. Further, they often run a prolonged course of

anatomical spread that may, and usually does, occur without concomitant symptoms or retardation of gain in weight and strength. They are, therefore, not conformable to a classification similar to that which has been given to tuberculosis in adults. Some account must be taken of these characteristics of the disease in children in making a diagnosis.

It is in the latent stage<sup>1</sup> that the chief interest lies, and the best hope of measures directed to the prevention of clinical disease among the large group of children who have been exposed for years to intimate household contact with sputum-positive tuberculosis.

The problem of prevention would be simpler and more direct if clinical tuberculosis were always discovered early in the adults of the family, and if it were then possible to prevent the protracted exposure to heavy infection of the children living with them. These requirements, certainly the root of the matter, are diffi-

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cult to meet. They can best be met by thorough employment of the well known measures necessary for early diagnosis, including, particularly, repeated examinations of the sputum of any patient with cough, and by the provision for proper care of tuberculous patients before and after the cessation of the more obvious symptoms. It is at least a matter of public interest to see that tolerable facilities be made available in order to encourage persons with tuberculosis to carry through the tedious process of recovery, and to house indefinitely those who, discouraged and resentful, would otherwise return, sputum-positive, to cramped living conditions among young children. While the dangers of casual contact with the tuberculous are certainly much exaggerated, the disastrous consequences to children of prolonged household contact with sputum-positive tuberculosis are difficult to overrate.<sup>2</sup> The fundamental principle that the size of the dose and the susceptibility of the host are the determining factors in producing disease is expressed in tuberculosis in the intimacy of contact and the age of the person exposed.

These being the conditions under which massive infections occur in children, let us turn to the lesions produced.

The first of these, commonly recognized as an isolated sub-pleural caseous or calcified focus, represents the site of original lodgment in the lung of a dose of bacilli capable of producing necrosis. The distribution of the lesion is apparently determined by the area of pleural surface and it is usually in the lower part of the lung.<sup>3</sup> Such a focus generally becomes encapsulated and calcifies. It produces no symptoms unless the lesion extends over a considerable part of a lobe, as commonly occurs in infants. The wedge of caseous consolidation that so often precedes miliary tuberculosis of infants and young children is simply a focus of primary infection that spreads instead of becoming walled off.

There are all varieties intermediate between these extremes. Careful serial roentgenographs of infants show that areas as much as three and four cubic centimetres can develop and then gradually shrink a little, finally to become largely calcified, without producing any symptoms and without retarding the normal gain in strength and weight. In other instances, the primary focus spreads to form an irregular

mottled area. This also arises from, and usually has its maximum density close to, the pleura. The spots of infiltration may coalesce to form a homogeneous consolidation, or may resolve into an irregular network of strands, which occasionally are spotted by flecks of calcium.

Cavities may occur with any form of primary lesion when the process is progressive. This event is the more usual the older the child. In younger children miliary tuberculosis is likely to supervene before excavation becomes clinically evident.

There are other non-apical types of tuberculous infiltration met with in childhood that are less patently due to a progressive primary focus. Such are the consolidations that appear in exposed children who for months or years have had a positive tuberculin reaction, but have hitherto shown no obvious diffuse pulmonary lesion. In many cases these infiltrations develop after a caseous primary focus and its associated lymph-nodes have become calcified. These lesions may be enumerated as: (1) a progressive or unstable consolidation which increases or fluctuates in area; (2) a retrogressive consolidation; and (3) confluent broncho-pneumonia.

The first and third of these types are not always readily distinguishable and develop more slowly than the second. The retrogressive consolidation has been observed to appear at its maximum extent, with trivial symptoms, rather suddenly, that is, within some two weeks,<sup>5</sup> in a lung that has been apparently normal, and to clear very slowly, leaving a few dense strands at the centre of the consolidation. Progressive or unstable consolidation may result from confluent broncho-pneumonia and the latter may resemble the former roentgenographically, as it clears after gradually reaching a maximum extent. They are both very serious lesions but may not result fatally if miliary tuberculosis does not develop. The interest of these three lesions is enormous from the point of view of clinical research.

As the mortality curves indicate, tuberculosis of the lungs is relatively benign in childhood, except during the first twelve to eighteen months of life. Even in infancy lobar consolidations may clear completely, or leave only a few flecks of calcium and a network of strands to indicate their site. Indeed, the chief hazard in prognosis is the possible development of miliary tuber-

culosis. Throughout the course of extensive lobar infiltration, even an infant may have few symptoms other than cough, and although retardation of gain of weight is general while an infiltration is increasing, weight and colour and strength increase rapidly if the lesion clears. Moreover, the tendency to relapse is trivial. After infancy, it is rarer to see serious progressive tuberculous infiltrations of the childhood type. They do occur and they are by no means negligible. But they show a fair tendency to scar under proper conditions, which include complete cessation of contact with the infecting source and complete rest.

In our opinion insufficient emphasis is laid on stopping the continued reinfection of a tuberculous child. Further, the more critical stages of all pulmonary lesions in children should be treated by literally absolute rest in bed. The use of a Bradford frame has been successfully introduced by Hyde<sup>4</sup> for lively children who are not made ill by progressive infiltrations and who cannot otherwise be impressed by the necessity for rest. The inconstancy and uncertainty of physical signs in these cases renders carefully made, comparable, serial roentgenographs indispensable for their supervision. In order that roentgenographs for such purposes, as well as for diagnosis, should be more accurate, greater power, speed and control than are generally available are reasonable and attainable requirements.

Differentiation of the childhood type of tuberculous infiltrations from non-tuberculous lesions depends on a history of contact in identifying the former; on a strong tuberculin reaction, the more significant, the younger the child; and on a demonstration of a unilateral lesion based on the pleura, producing symptoms trivial in proportion to its anatomical severity and having a tendency to excavation if extending. The excavation occurs usually within the middle or upper portion of the infiltration and when excavation has occurred the sputum is positive. Non-tuberculous lesions are commonly dated back to an attack of measles, whooping-cough or broncho-pneumonia; are associated often with a negative, or in older children, with a weak tuberculin reaction; are usually seated in the posterior part of the left lung and involve the right lung secondarily. There is usually a history of repeated severe respiratory infections

with prompt recovery of strength but persistent cough. The lesion when first recordable reaches its greatest density close to the heart and spreads downwards to the diaphragm as expectoration becomes a definite symptom.

The early recognition of these chronic non-tuberculous lesions is important because only in the early stages is the outlook at all hopeful. They can almost invariably be diagnosed as chronic pneumonia long before extensive pulmonary fibrosis or bronchiectasis exists, with its characteristic sputum and hopeless prognosis if unrecognized and untreated. No group of patients is more pitiable than those with advanced bronchiectasis and its associated chronic bronchopneumonia. The dyspnoea and cough, often productive of foul sputum, render life all but unbearable.

The tuberculous lesions of childhood type are also distinguished by the development, secondary to the primary parenchymal focus, of caseation in one or in all of the nodes directly consecutive in the line of drainage. The mediastinal nodes are situated beside the trachea and extrapulmonary part of the bronchi; the intrapulmonary, at the site of origin of the larger bronchial branches from the main stem bronchus. The nodes are involved in sequence from the more peripheral intrapulmonary node along one line of bronchial arborization centripetally to the trunk, that is, to the tracheal bifurcation and the trachea itself. Bilateral or generalized involvement of the intrapulmonary nodes does not result from a parenchymal focus in one lung. The sequence of the caseous necrosis is distinctly centripetal, not centrifugal, as can be anatomically verified. Even in heavily exposed children, it is rare that caseous nodes, whether mediastinal or intrapulmonary, reach a size that is clinically or roentgenographically detectable, except when associated with a progressive pulmonary consolidation of infancy. They lie upon and are surrounded by structures of equal density to their own.<sup>5, 6</sup>

In the absence of unmistakable pulmonary infiltration we have observed caseous nodes large enough to be recorded by the roentgen ray in a few children, all but three of whom were coloured. Symptoms referable to those enormous nodal masses were slight and questionable, or absent. Respiratory symptoms were entirely lacking.



Again, we compared the weight and general health of two groups of children of the same economic class; the first including a large number of children with strong tuberculin reactions, but no demonstrable pulmonary or lymph-node lesions; the second, non-contact children with negative tuberculin reactions. We were unable to find evidence that the children with strong reactions were less healthy than the non-reactors. There were no signs or symptoms that occurred more strongly or more frequently in the one group of children than in the other.

Calcified nodes, because of their calcium content, are readily recordable.<sup>5, 6</sup> They occur chiefly in contact children and are an index of severe infection.<sup>2, 7</sup> The more delicate the calcium infiltration, the more likely is the infection that produced the underlying caseation to be recent. The discovery of calcified nodes, even without a history of contact, points to a child who has been heavily infected. In such a case the current significance of the infection is largely indicated by the tuberculin reaction. A low or negative reaction to 1 mgm. of old tuberculin suggests that the lesion is practically obsolete. A calcified node with a weak tuberculin reaction to 0.1 mgm. of old tuberculin is similarly of little significance, *except in a child who has lived in relatively recent contact with sputum-positive tuberculosis*. The importance of established contact is such that it is the paramount consideration in determining the need for oversight of adolescent children.<sup>1, 2</sup> Its significance is not invalidated by apparently dense calcification and a relatively weak tuberculin reaction.

Careful comparison of the symptoms, weight, strength, and susceptibility to colds of contact children who present calcified nodes with the same symptoms and criteria of general health of tuberculin-negative, non-contact children living under the same economic conditions shows, as with caseous nodes, no symptoms or defects of health that can be fairly referred to the calcified nodes.<sup>6, 8</sup> If a child showing calcified nodes presents evidences of ill health, careful examination should be made for another lesion, intrapulmonary or elsewhere. The child should be treated for ill health, but not for the calcified node. Fixation of attention on the node will prevent search for the real cause, removal of which is ever the hope of medicine.

The tuberculous lesions that have been dis-

cussed are those that are, in the white race, characteristic of children. The pulmonary infiltrations described for the most part represent or arise from a first infection of the lung. They develop from a base on the pleura, and being distributed apparently with reference to pleural surface, they occur chiefly in the lower part of the pulmonary cone, although they not uncommonly involve the upper lobe also, especially in infants. The fundamental difference, however, between the typical tuberculous infiltration of the child and of the adult is that the former implicates the pulmonary nodes and the latter does not. This difference has, of course, a parallel in that existing between the first infection and the reinfection of the experimental animal.<sup>9</sup>

The childhood type of pulmonary infiltration predominates in the early years, but toward the tenth year one finds increasingly apical lesions having the characteristics of adult tuberculosis or phthisis. Infiltration of this type may be the first demonstrable diffuse parenchymal involvement, or it may follow a demonstrable lesion of the childhood type. In the latter case, the apical invasion adds greatly to the seriousness of the outlook.

In any plan for the prevention of tuberculosis,<sup>2, 7, 10</sup> next in importance to the prevention of dissemination of bacilli in the household, comes the prevention of the development of apical lesions in adolescent children living in contact with open tuberculosis. These should live under conditions of work, rest, and nutrition that will keep them in good physical condition. In addition, serial annual roentgenographs should be made. Observation of the adolescent children of a group of families in which either father or mother had sputum-positive tuberculosis proved conclusively that an extensive apical infiltration can develop in adolescents without any symptoms or impairment of growth, weight, or strength. This observation is, of course, entirely in harmony with the insidious nature of tuberculosis. In a considerable number of such children we have been able to record the development of an apical infiltration from the time when it was barely perceptible to the appearance of an extensive infiltration, when râles and, later, symptoms occurred.<sup>1</sup> It has been of interest to find that in most cases the development of râles shortly antedated the appearance

of symptoms; in one case symptoms possibly referable to the lesion preceded physical signs, and in one râles were heard simultaneously with the roentgenographic demonstration of a lesion. Several children in whom a soft, spreading infiltration was recognized roentgenographically have been sent to a sanatorium while still without either physical signs or symptoms. In some of these, after discharge from sanatorium care, râles first became audible as the roentgenographic density cleared and assumed a strand like character.

If satisfactory films are made, the first appreciable density caused by a lesion of adult type in an adolescent is usually in the extreme apex. In our experience, the so-called sub-clavicular lesion of Wessler and Jaches<sup>11</sup> develops later. We do not question that sometimes a small lesion will first be unmistakably recordable below the third rib posteriorly. But usually, in our serial roentgenographs of contact children, the first density has been in the extreme apex and later, often one to two years later, it has spread below the clavicular level.

The structure of the extreme apex must be carefully studied if one hopes to perceive the earliest lesions in this site. The incident axial beam of the x-rays must pass as nearly as possible tangential to the apical contour. The clavicle must run horizontally, coinciding with the anterior part of the first rib, in order to expose the extreme apex and reveal salients, strands or mottling. Only so, for example, will the early delicate salients based on the pleura give a perceptible outline, like an inverted mountain range, below the posterior arch of the second rib.

Before one attaches too much importance to an appearance suggesting that the original and only significant apical infiltration is sub-clavicular, a conclusion at variance with post-mortem evidence, one should consider the possibilities of error due solely to limitations of technique. Attempts to establish a pathogenesis of lesions based on studies of the living alone are always hazardous. Wessler and Jaches made no such attempt, but many authors have not been so conservative. The peculiar susceptibility of the axillary part of the apex has long been recognized by pathologists and by tuberculosis specialists, and this fact, as long as it is not made the basis for a theory, is a good point to remem-

ber in placing a patient for a second roentgenograph when one is in doubt as to the exact extent of an apical lesion. The clavicle should run up and outwards, as results from the usual position with the hands on the hips. The extreme apex will then be much obscured, but the third and fourth interspaces posteriorly will be better exposed. The exclusive use of this position may well be responsible for some opinions expressed regarding the significance of sub-clavicular infiltrations.

Emphasis is laid on these points because it is only by taking into account the anatomy of the apex and the effect of the patient's position in revealing or obscuring its significant areas that the earliest infiltrations of this group can be discovered. Most of them can be found only if they are sought in the extreme apex, which can be exposed only by placing the patient so that his clavicle is horizontal. This is a matter of the greatest importance in preventing clinical disease.

The only apical infiltration in a child that can be regarded as stable is the sharply defined linear strand-like infiltration that has remained unchanged after months of observation. A case history will give point to this.

A boy of 16, the son of a tuberculous father, showed a somewhat strand-like apical infiltration on routine examination in January, 1927. Symptoms and signs, other than right apical impairment, were lacking. His weight was normal. He was in a sanatorium until September, 1927. The lesion had assumed a sharply strand-like appearance. In late September, 1928, he began to cough. He woke October 15th with a mouthful of blood. He came to the clinic October 19th. He was 5 per cent underweight; râles, impairment of the percussion note, and breath sound changes were heard over the right apex, and in the same area there was a soft shadow with a rarefaction in the third interspace posteriorly.

Much attention has been given here to roentgenographic evidence. The writer, as a clinician by training and desire, holds no brief for the roentgen ray, except as a valuable method of physical exploration with which every physician interested in pulmonary disease must acquire a working familiarity. No one acquainted with its splendid potentialities in the diagnosis of latent apical tuberculosis could view it otherwise than with affectionate respect. It enables one to recognize the most disastrous disease of early adult life in a stage when it will respond rapidly to the proper treatment. By recognizing the possibilities that lie in extending its use and in promoting adequate facilities for treatment of

the latent cases it will discover, the medical profession can again expand the field of preventive medicine.

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## VARICOSE VEINS AND THEIR TREATMENT BY SCLEROSIS\*

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VARICOSE veins may be classed as idiopathic, symptomatic, and compensatory.

Idiopathic varices usually arise before the age of 30, and even in childhood. They are not congenital, but there is frequently a familial history, and there is evidently a predisposition to weakness which shows itself when pressure of any kind hampers venous return. Under such circumstances the vein dilates, and there is subsequent incompetency of its valves. This process, once started, gradually progresses. Varices of the lower limbs usually first appear along the course of the internal saphenous vein, about the middle third of the leg. They then progress proximally and distally. Frequently, the external saphenous vein is involved, in which case they then appear on the calf of the leg.

In 80 per cent of cases varicose veins involve both legs. They are as common in males as females, although females are probably more frequently hampered than males by such causes as garters, constipation, and pelvic tumours.

Granted that varices have established themselves, they may remain as such, or become gradually worse, as a result of the continuance of the activating factor. In the final stages the saphenous opening is reached and the valve at the saphenous opening becomes incompetent, thereby allowing the weight of the column of blood in the vena cava to exert its pressure on the already weakened saphenous vein wall. With this condition established, the

varices completely ruin the function of the saphenous vein. It no longer drains the leg, but merely completes a circle with the femoral vein, in which the blood flow is distal in contradistinction to the normal proximal flow. This is brought about by the difference in pressure between the blood in the femoral vein and the saphenous vein at the saphenous opening, and the fact that the valve at the saphenous opening has become incompetent. The blood in the femoral vein spills over into the saphenous vein and courses distally to return to the femoral by the vascular anastomosis. This explains the development of eczema, friable skin, and ultimately varicose ulcers, the healing of which can only be accomplished by breaking the vicious circle. This is carried out by bed rest, with elevation of the limb, thus allowing the tissues to be bathed in oxygenated blood.

*Symptomatic varices* do not conform to the preceding distribution but occur more or less equally on both sides of the leg, especially in the lower third and about the ankles. Edema in these cases usually appears before the varices, which is contrary to the rule in the case of idiopathic varices. They are secondary to cardio-respiratory disease or arterial disease.

*Compensatory varices* are the direct result of the blocked venous return in the deep inter-muscular veins, such as is usually brought about by thrombophlebitis. In this case, the superficial venous system undertakes the work of the deep venous system. They are characteristic, in that they form a network running and interlacing in all directions, instead of

\* From the clinic of the Montreal General Hospital.

being limited to one or both saphenous trunks.

*Histo-pathology.*—A study of sections taken from a varicose vein shows the following changes. 1. Immediately below the saphenous opening the tissue is remarkably healthy, with absence of thin areas in the venous wall. The intima is thickened and contains a considerable amount of longitudinally placed smooth muscle. The media is by far the thickest coat, and is composed of circularly disposed smooth muscle embedded in connective tissue. There is a very distinct internal elastic membrane. The adventitia is less thick than the media, being composed largely of connective tissue, although at intervals longitudinally disposed smooth muscle may be seen.

2. In the mid part of the thigh the muscle appears less healthy. There is an increase in the amount of connective tissue, the internal elastic membrane is less marked, and the intima shows more general thickening.

3. In the calf of the leg the longitudinal muscle in the adventitia may or may not be found.

4. Immediately above the internal malleolus the longitudinal muscle in the adventitia is never found. The muscle in the media, instead of being circular, becomes longitudinal. The muscle in the intima is absent.

Some authors have attempted to explain varicose veins on the basis of trophic changes, but so far only degenerative changes have been found. With the exception of a pair of valves at the saphenous opening the distribution of these is not constant.

It may be of interest to mention some points in the taking of the history at the clinic for varicose veins at the Montreal General Hospital. The occupation naturally is of great importance; also, the fact of having lived in the tropics and having had typhoid, malaria or other tropical diseases; idiosyncrasy to salicylates, quinine, or mercury; the presence of varicocele, hemorrhoids or melæna; whether the patient is pregnant; the number of children; the presence of varices in the parents. All these have a special bearing; other points of course may arise. Certain questions also are asked regarding the present condition, such, for instance, as: When did the varices appear? How much have they increased? How much rest is required? Are the limbs heavy? Do the

limbs and ankles swell? Have there been varicose ulcers? How were they treated? Are elastic stockings worn? Have the limbs been strapped? Has saphenectomy been performed?

In the local examination the degree of varicosity is determined by the tests of Trendelenberg and Homan. The veins are examined for the cord-like appearance suggestive of old thrombosis, for acute thrombophlebitis, and to determine whether there is an impulse on coughing. In the general physical examination, which should naturally be carefully carried out, a Wassermann test and blood sugar estimation are insisted on, particularly in the presence of old ulceration. A chart also is kept in which the following points are noted: whether the patient became sensitized to the solution used for sclerosis; the quantity used; the site of injection; the presence of reactions, such as inflammation locally; temperature and pulse; inability to walk, etc. For painful reactions the application of evaporating lead lotion will give great relief. In the case of ulcers, Unna's paste may be used. The injections are usually given once a week up to six in number, if necessary.

#### REPORT OF CASES TREATED BY PRODUCING SCLEROSIS OF THE VARICES

##### CASE 1

Mrs. S., aged 50, was admitted to hospital in order that careful observations could be recorded on the reaction of the varices to the sclerosing solutions.

There was nothing of note in the family or personal histories. Since the birth of her last child, ten years ago, the patient had suffered with varicose veins which gradually increased in size, causing more and more discomfort. Elastic stockings gave relief for some years, but finally the varices reached such a size that the elastic stockings were of very slight value. On account of the tired feeling in the limbs the patient found that she had to rest the greater part of the time. There was no history of varicose ulcers, of phlebitis, or of hemorrhoids. On long standing there was occasional swelling of the feet and ankles. Her general condition was excellent. There was no apparent cause for the interference to the venous return in the lower limbs. The pelvis was negative. There was no evidence to suggest an old phlebitis, such as dilatation of the supra-pubic veins. The laboratory findings in the blood and urine were negative.

Both the right and left legs showed immense varicosities of the internal saphenous veins, extending from about four inches below the saphenous opening to the middle third of the left lower leg. On the left leg below the knee the varices were of greater magnitude, and there was also a roseola of minute venules about the ankle. The varices below the knees were about the diameter of a small marble, while those in the thighs varied in diameter from that of a large marble to a golf ball. Everywhere they were soft and fluctuant, and showed no evidence of a pre-existing phlebitis.



Both the Trendelenberg and the Homan's tests were strongly positive in both legs. There were no areas of pigmentation, eczema, or ulceration. The varicosities were limited to the internal saphenous veins, there being practically no tributaries and above all no varicose condition of the post-saphenous veins.

**Treatment.**—June 3, 1928, she received potassium iodide, gr. XV, thrice daily by mouth. A sensitization dose of 0.25 c.c. of 20 per cent sodium salicylate was injected intravenously at a point internal to the knee on the right leg. No cramps were noted during injection. There were no headaches, dizziness, sweats, or pyrexia following this sensitizing dose. At the site of injection there was no reaction, other than a slight yellow tinge. It was, therefore, considered that the patient did not have any idiosyncrasy to salicylates. She was then given two injections, 6 cm. apart, of 5 c.c. of 30 per cent sodium salicylate. The vein immediately contracted, and there were temporary cramps in the calf, but no general reaction. The left leg received three injections, each of 3 c.c. of 40 per cent sodium salicylate in the middle third of the lower leg, with the same resultant contraction of the vein. These injections were given with the patient sitting on the edge of the bed, with the feet on a chair, and putting pressure on the leg at the time of injection. Two days later the legs showed the following condition. On the right leg, for a distance of three inches above and below the points of the sclerosing injection, the vein was dilated, spongy and firm, it did not fill on standing. Blood could not be removed from the spongy area with a hypodermic syringe. Two such areas were injected with 4 c.c. each of 40 per cent sodium salicylate. There were no cramps. One varix in the mid thigh was injected with 5 c.c. of 40 per cent sodium salicylate and produced severe cramps in the calf of the leg. On the left side the areas injected were firm, spongy, and yellow, and did not fill on standing. Two areas internal to the knee were injected with 4 c.c. each of 40 per cent sodium salicylate. This gave rise to slight headache and cramps in the calf of the leg.

On examination, four days later, the right internal saphenous vein, from the knee to the upper third of the thigh, showed all the signs of a cellulitis without edema, elevation of temperature, or pulse. The vein was full and indurated. The patient complained of local heat. There was no filling of the vein on standing, which was remarked upon by the patient. The left internal saphenous vein below the knee was firm and yellow but not reddened. Above the knee, however, there was slight redness with a bluish-yellow discolouration. The vein was firm and spongy, with the exception of the uppermost two dilations which were semi-fluctuant. Two c.c. of 40 per cent sodium salicylate were injected into each of the above varices, and also 2 c.c. into the varix of the middle third which was partly sclerosed. Evaporating lead lotion applied to the limbs gave relief from the burning sensation. Two days later the redness was subsiding, and there was less discomfort. The vein was still red, with bluish-yellow streaks, but was very much firmer.

On discharge from the hospital on June 14th, examination showed that the varices were half the size they were on admission and had been replaced by firm fibrous cords, the course of which was marked by a yellow stain. There was absolutely no filling on standing. The patient felt better than for years, and when fully dressed walked without the slightest disability.

Three months later the patient reported that she could stand all day without tiring. Physically she had no complaints. There were no stains on the legs. The varices had contracted down to one-tenth of the original size and had become merely a cord.

#### CASE 2

A barber, aged 40. The history showed that he had had typhoid at twelve years of age. He had had varicose veins for about twenty years. The varices had gradually increased in magnitude. About a year ago he developed a varicose ulcer on his left leg, just above the internal malleolus, which would not heal. At the time of examination he had in addition two small ulcers on the right leg. All his symptoms were referable to the ulcers, which caused him very considerable discomfort. There was an almost constant burning at the sites of the ulcers which was improved to some extent by lying down. The legs did not feel heavy, nor did the ankles swell on long standing. Prior to the development of the ulcers the patient had had relief from elastic stockings, but later the pressure from the stockings aggravated the burning. The legs had never been strapped with adhesive plaster, nor had there been any operations performed on the veins.

The physical examination, with the exception of the legs, was absolutely negative. The laboratory findings in the blood and urine were normal.

The internal and posterior saphenous veins of both legs were varicose from the ankle to the groin. These varicosities were massive, varying in diameter from 1 to 2.5 cm. There was an ulcer, 3 cm. in diameter, just above the internal malleolus on the left leg. It had a clean granulating base and only slightly indurated edges. On the right leg there were two small ulcers, about 0.75 cm. in diameter, above the internal malleolus. There was an impulse on coughing. Trendelenberg's and Homan's tests were positive. There were no cords in the veins. There was no supra-pubic lacer.

These varices were considered to be idiopathic, and it was therefore thought that the case would do well with injection.

On November 6th, 1928, he was given potassium iodide, gr. XX thrice daily, by mouth. He received one-half c.c. of a 20 per cent sodium salicylate solution intravenously in the middle third of the left leg. There was no immediate reaction, but on returning home he complained of light headedness with buzzing in the ears for three hours. Dizziness also persisted for about six hours. Three days later he complained of sore eyes. Five days later he developed a rash on his back. The potassium iodide was discontinued. Seven days later all the above symptoms had cleared up. The early reaction was considered to be due to salicylates but the later to the potassium iodide.

Considering that the patient had an idiosyncrasy to salicylates it was decided to give a sensitization dose of one-half c.c. of quinine urethane. This was given intravenously in the upper left leg and two days later potassium iodide, gr. X, twice daily, was started again. There was no reaction to the quinine and on November 20th 4 c.c. of quinine urethane were injected in two injections into the middle third of the left leg. There were no immediate reactions except that at the end of ten minutes the patient complained of a salty taste in his mouth. Six days later he still complained of burning pain in the ulcer. Eight cm. of vein about the area injected showed a reddish blush. This area was firm and hard, showing almost complete obliteration. There was no filling on standing. Five c.c. quinine urethane were then injected at one site into a bulbous varix below the knee but just above the area of obliteration. Shortly after injection the patient again remarked on the salty taste.

Three days after last injection there was a very extensive phlebitis, extending from a point two inches below the knee to the saphenous opening. This rendered the leg very hot and stiff. One day's rest, with hot fomentations, eased the condition. Seven days later there was complete obliteration over the above area. The vein felt like a rope. There was not the slightest filling on standing.

He was then given 6 c.c. of quinine urethane in one injection into the middle third of the right leg. Again there was the slaty taste. Three days after this injection the right leg showed very extensive phlebitis with burning and stiffness. The patient remained at home for three days and applied hot fomentations. Seven days later the potassium iodide was stopped. There was complete obliteration of the right internal saphenous vein from the lower third of leg to the mid thigh. The ulcers still caused some tingling. There only remained two small posterior saphenous varices. About one month after the first injection all the burning had disappeared from the ulcers.

On January 5, 1929, the ulcers on both legs were found to be completely healed and covered with healthy pink epithelium. There was still some subacute "veinitis" in the varices. An Unna's paste dressing was placed over the ulcers to protect the new epithelium. On January 15th the legs were stripped of all dressings. There was complete obliteration of all varices, with the exception of two small areas behind the left knee. These will be watched for three months and then if not obliterated will be injected.

The next seven cases were treated with sodium salicylate, and a few notes of interest regarding each may be given.

#### CASE 3

Male, aged 31, with idiopathic varices dating back eight years.

Extending over a period of twenty-two days he received 18 injections of sodium salicylate, 9 of which were 20 per cent solutions; 7 were 30 per cent solutions; and the remainder 50 per cent solutions. The reactions were very slight but nevertheless obliteration of the varices was complete.

#### CASE 4

Male, aged 40; both limbs were treated simultaneously.

The period of treatment was 24 days, covering both legs, during which time the patient was able to walk about. There were 14 injections of 30 and 40 per cent sodium salicylate. On completion of the injections an ulcer which had been present was completely healed over.

#### CASE 5

A female aged 45, sustained complete obliteration of the internal saphenous vein, extending from the internal malleolus to the lower third of the thigh on the left leg, after the completion of six sittings placed one week apart, with a total of 11 injections. For the greater part 40 per cent sodium salicylate solution was used. Throughout the entire treatment the patient was in no way incapacitated. The limb as the result of obliteration of the varices is now free of all the symptoms of which she formerly complained.

#### CASE 6

A female, aged 53. This case responded remarkably to sodium salicylate, which produced an area of obliteration of about eight cm. Subsequent injections of 20, 30 or 40 per cent solutions, however, did not have the slightest effect. It was considered that the varices had developed a tolerance to the sodium salicylate so they were re-activated by injecting at two sites along the vein one and a half c.c. of a 1 per cent solution of biniodide of mercury. Seven days later there was a very active veinitis. Sodium salicylate was then returned to as the sclerosing agent.

#### CASE 7

A female, aged 49. About three weeks after complete obliteration of a varix below the knee that had been bleeding she developed a mild thrombo-phlebitis of the varices of the thigh on the same leg. This emphasizes the fact that in the presence of an old infection the propriety of injection must be carefully considered.

#### CASE 8

This case is significant for two reasons. In the first place there was very extensive varicose eczema, which very remarkably cleared up as the varicose veins were obliterated. In the second place, at one site of injection there was evidently a leak into the tissues of the sodium salicylate. Three weeks after injection there was a bluish indurated blush, about the size of a five cent piece. Five weeks later the bluish area sloughed out leaving a punched-out ulcer about the diameter of a five cent piece and about half a centimetre in depth. The slough was very foul, resembling that of a trophic ulcer. This took weeks to heal.

#### CASE 9

This case was treated purely for cosmetic reasons. Two injections of sodium salicylate five days apart completely obliterated the varices. Within three months all evidence of the varices had disappeared.

#### CASE 10

In this case (a sailor) there had been hæmorrhage from the varices. Sclerosis was carried out with 1 per cent biniodide of mercury. The results were very satisfactory. Phlebitis did not manifest itself until about seven days after the injection. There was no pain on injection, but a total injection of six c.c. rapidly gave rise to a mild mercurial poisoning. On the other hand, a phlebitis which had subsided frequently recrudesced, in which case an additional area of vein became thrombosed.

#### CASE 11

Varicose ulcers for three years. At the time this patient reported for injection of the varices the ulcers were in a quiescent period. However, in a period of some twenty-five days, during which she received six injections of quinine hydrochloride and urethane, complete obliteration was effected. At two sites of injection, after a lapse of twenty-one days, a small punched-out ulcer developed, the healing of which was very slow.

#### CASE 12

Varicose veins for five years. This patient received nine injections, some of sodium salicylate, and others of quinine-urethane, since she developed an intolerance to sodium salicylate. There was complete obliteration of the varices of both legs, with complete alleviation of all symptoms.

#### CASE 13

This patient had bilateral varices. Her left leg was injected with one and one-half c.c. of quinine urethane at about the middle third. Fifteen days later two c.c. of quinine urethane were injected into the posterior saphenous vein. Thirty days after the first injection there was complete obliteration of all the varices of the left leg. The right leg is now under treatment.

#### CASE 14

In this case, a male, with a large varicose ulcer on the middle third of the left leg, the patient was given the sensitizing dose of one half a c.c. of a 30 per cent solution of sodium salicylate, into the saphenous vein, just below the knee. Eight days later thrombosis ex-

isted from the ankle to the saphenous opening. This emphasizes the importance of starting with small injections. Fourteen days after injection the ulcer was almost healed, and the sclerosed veins were firm and painless. One cubic centimetre of 30 per cent sodium salicylate was injected into the varix of the posterior saphenous veins. Twenty-one days after the injection the ulcer was completely epithelialized. Twenty-seven days after the first injection one c.c. of 30 per cent sodium salicylate was injected into a varix on the medial side of the calf. Thirty-two days after commencement of treatment the patient returned to work. There still remained some minor varices to obliterate.

#### CONCLUSIONS

In conclusion I may say that the results of this method of treatment are very satisfactory. Injection should be done only in the idiopathic type of varicose veins, and always starting with very small amounts of the sclerosing agent, until the reaction on the part of the patient has been observed. Furthermore, if at the expiration of three months there are a few new varices which have undergone dilatation, or which were not previously treated, inject them as in the case of those causing symptoms.

#### ADDITIONAL REMARKS BY DR. A. T. BAZIN

I have had the opportunity of closely observing the work of Dr. Pretty in the treatment of varices by intravenous injection of sclerosing or obliterating chemicals in solution.

For many years after Sicard's original publication there was much skepticism regarding the propriety of deliberately inducing a thrombus within a vein. In some quarters that skeptical attitude persists to the present time.

But histological examination of the treated veins demonstrates a condition quite different from infective thrombo-phlebitis. In the former the intima always, the media usually,

and the adventitia frequently, are involved in a process of inflammatory reaction, to a sterile irritant. This is referred to by Sicard as "veinitis." This inflammatory swelling produces more or less complete obliteration of the lumen with little room for formation of thrombus, which is firm and closely adherent to the intima. Resolution of this thrombus does not occur, it is rapidly and completely organized.

In the latter (thrombo-phlebitis) the thrombus is the predominant feature. The large amount of clot may organize, or it may resolve. In the stage of resolution the fragments of clot are but loosely attached to the intima and may dislodge as an embolus. Again, with ligation of veins, as in operative treatment of varices, there is bound to be soft, bulky, clot formation from the site of ligature to the front orifice of the first tributary proximal to the ligature. Here again the dangers of embolus present themselves, hence the necessity of quiet rest in bed until the period of resolution of clot has passed.

In my opinion, the case for the injection-obliteration method of treatment has been established. But, as Dr. Pretty points out, any radical treatment of varicose veins must be limited to the idiopathic type. To determine this type requires careful and painstaking examination into the history and general physical condition. Furthermore, the injection-obliteration treatment should be instituted with extreme caution, both as regards possible idiosyncrasy to the drug employed as well as to the technique of the procedure.

**TREATMENT OF HEMOPTYSIS**—A method for the arrest of hæmoptysis by the supraglottideal injection of adrenaline has been proposed by Dr. Giuffrida, Assistant Medical Director at University of Catania, in the course of our joint studies on the local treatment of pulmonary tuberculosis. The injection is carried out by means of a 5 c.cm. syringe, to which is fitted a cannula 2 mm. in diameter and 11 cm. in length, of which the distal 4 cm. are bent on the remainder at an angle of 110°. The material injected consists of 1 c.cm. of a 1 per cent solution of adrenaline, to which has been added 2 c.cm. of boiled water. The patient, who must be in a good light, is asked to breathe as slowly and deeply as possible, while the operator, holding the tongue between the thumb and forefinger of the left hand and the

syringe in the right hand, introduces the cannula along the side of the tongue to the epiglottis, and during a deep inspiration injects the solution. The patient's body is now inclined towards the diseased side, so that the drug may be distributed along the bronchial surfaces to the affected area. The hæmorrhage usually stops at once, the method having failed in only six out of a hundred cases. Recurrences may be prevented by repeating injections twelve-hourly for three days, or even six- or eight-hourly should recurrence take place in under twelve hours. Dr. Giuffrida has shown that adrenaline introduced intratracheally has only a local hæmostatic action and is without appreciable effect on the blood pressure.—Maurizio Ascoli, University of Catania.

## AN ANALYSIS OF ONE HUNDRED AND THIRTY-SEVEN CASES OF GASTRIC CARCINOMA AS TO THE EARLIEST SYMPTOMS\*

BY WILLIAM GOLDIE, M.B.

Toronto

THE attitude of hopelessness that physicians and the laity have toward carcinoma of the stomach is evidently based upon the fact that when a definite diagnosis has been arrived at the great majority of cases are found to be inoperable. Eradication is impossible, not because the original site of the new growth is at a particular point, for the skill of the surgeon could overcome any such difficulty, but because the new growth at the time of definite diagnosis has spread far beyond its point of origin, to involve the greater part of the stomach, the lymphatics or the surrounding tissues, or by metastasis the distant tissues. This being so, the diagnosis of carcinoma must have, in the great majority of cases, been made long after the onset of the disease, for it is unreasonable to accept the alternative that the spread of carcinoma of the stomach is more rapid than the spread of like carcinomata from other sites.

Wherein lies the hope of bettering this state of affairs?

The expectation that biological tests might indicate the individuals susceptible to, or in the presymptomatic stage of, carcinoma has not been fulfilled. Hence, at present, it is not reasonable to expect that carcinoma of the stomach can be suspected as early as in the breast cases, where, because of the ease of examination, suspicion is frequently aroused before the occurrence of symptoms. The only hope at present is that both the patient and the physician will come to suspect carcinoma during the stage of the earliest symptoms, and that investigation at this time will lead to the diagnosis and allow the surgeon a better chance of removing the new growth. Therefore, an endeavour should be made to enquire thoroughly and painstakingly into the early history of all cases, and to record the early symptoms and the course, with the hope that data will be acquired by which we shall, in the future, be led to suspect carcinoma in this the earliest period available for interference.

\*Read before the Section of Medicine, Academy of Medicine, Toronto, January 15, 1929.

Records of such early symptoms and an analysis of these have been given by many clinicians, and to these I wish to add 137 cases in which the notes are full enough to be used.

These 137 cases have been divided into two classes:—

(1) Those having had previous indigestion, numbering 46, and which will be referred to as *plus* cases.

(2) Those without previous indigestion, numbering 91, and which will be referred to as *minus* cases.

These have been analyzed separately as to age of incidence, duration, early symptoms, etc.

In each class the age-incidence is almost the same. In the *minus* cases only 5 occurred before the age of 40, and in the *plus* cases only 3.

The average duration between the earliest symptoms and a definite diagnosis was in each class 8 months, with extremes in both classes of a few days to two years. The average time between the earliest symptoms and the consulting of a physician was for the *plus* cases  $4\frac{1}{2}$  months and for the *minus* cases  $5\frac{1}{2}$ , which leaves the average time between consulting a physician and a definite diagnosis  $3\frac{1}{2}$  months for the *plus* cases and  $2\frac{1}{2}$  months for the *minus* cases. To put this in another form, the average time lost was 8 months, of which, in the *plus* cases,  $4\frac{1}{2}$  months' loss was due to the patient and  $3\frac{1}{2}$  due to the physician, and in the *minus* cases  $5\frac{1}{2}$  months due to the patient and  $2\frac{1}{2}$  months due to the physician. Surely this is a state of affairs that should be remedied.

I will not tax your patience with the interminable list of initial symptoms, as shown in these cases and those recorded by other clinicians, but will confine myself to conclusions or impressions arising from a consideration of them.

The earliest symptoms in the *minus* cases are the more readily obtained, and at once revealed that in one-third of the *minus* cases there were no local abdominal symptoms for weeks or months, so that in this third the only reasons for suspecting carcinoma were the age of the patient and the



lack of other sufficient cause or causes for the existing symptoms.

In the plus cases there were 10 cases not having had indigestion or serious illness for 9 or more years, which could have been included in the minus cases for the purpose of this study. Allowing for these, in the remaining plus cases there appeared symptoms not associated with former indigestions, which were taken as the earliest symptoms, and when so taken there is a close agreement between the two classes, plus and minus, as to the variety and the percentage of initial symptoms in each, so that loss of appetite, loss of weight and loss of strength were the earliest symptoms in one-third of the plus cases. Here again the age incidence and lack of other causes are the only reasons for suspecting carcinoma, but it is seen that the patient became alarmed earlier and the physician later in the plus cases than in the minus cases.

The initial symptoms vary greatly from such general ones as loss of weight, loss of strength, loss of colour, etc., to local distresses simulating at this stage any form of disordered action of the oesophagus, stomach, duodenum, or colon. In 13 cases, or nearly 10 per cent, the first symptoms were focal, arising from a metastasis without general or gastric symptoms.

There appears no pathognomonic symptom nor any symptom complex related to carcinoma tissue itself. The continuity of symptoms so often relied upon as a diagnostic point is rather an indication of the spread of the disease and the severity of the tissue reaction, and causes one to view the case as hopeless.

The most favourable case is where the earliest symptoms are obstructive, and here the hope is that the growth is at the pylorus and producing symptoms by its mere mechanical presence. The most unfavourable is where a metastasis is discovered to be the cause of the earliest symptoms. The patient frequently suspects what is wrong in the early symptomatic period, but because of the traditional outlook does not consult a physician until forced to, and even then is loath to express his fear. The plus cases note the difference from former attacks, and as a rule consult a physician

earlier than do the minus cases, who hope that it is only an "attack of indigestion."

The physician, not appreciating the change in plus cases, views the existing trouble as a mere variation of former attacks, and he is led astray in the minus cases because of the coincidence with worry or convalescence from other disease, or because the early symptoms mimic the onset of other lesions or diseases.

#### CONCLUSIONS

From a consideration of these records one is led to lay down the following warnings.

(1) Suspect carcinoma in every individual of forty years or over who has any form of gastric disturbance, until you can prove that the cause is not carcinoma.

(2) Individuals of forty years or over suffering from general failure without evident and obvious cause must be suspected of having carcinoma until you can prove otherwise.

(3) Gain in weight and relief of symptoms under treatment must not halt the investigation.

(4) The findings from examination of the stomach contents during the early symptomatic stage are more misleading than helpful.

(5) In the early symptomatic stage the most helpful aid at our disposal is x-ray examination by a persistent expert.

(6) If there is no proof that the symptoms arise from other cause or causes persuade the patient to discuss the problem in consultation with a surgeon.

The defeatist would point to the results of operation for carcinoma of the breast in cases where symptoms (not signs) had been present for months and remark, "What is the use?" But this attitude is neither scientific nor humane, and puts a stop to all inquiry into the cause or means of relief.

As clinical investigation is as yet the only method open to us, a strong endeavour should be made to obtain data as to the earliest symptoms in all cases, and to record such histories with a central committee, and, starting from these and other obtainable records, to conduct a campaign to warn the public and the profession, as has been done in the case of carcinoma of the breast.

"The debris of broken systems and exploded dogmas form a great mound, a Monte Testaccio of the shards and remnants of old vessels which once held human beliefs. If you take the trouble to climb to the top

of it, you will widen your horizon, and in these days of specialized knowledge your horizon is not likely to be any too wide."—Oliver Wendell Holmes.

## JUVENILE DIABETES\*

By I. M. RABINOWITCH, M.D.

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*Montreal*

BY juvenile diabetes, I mean diabetes mellitus occurring in children of fifteen years of age or under.

The incidence of this condition is, apparently, not very great. In Table I. are recorded the annual admissions of adult and juvenile diabetics to the clinic for diabetes at The Montreal General Hospital from January, 1923, to November, 1928. It will be observed that juveniles represent about 5 per cent of the total admissions. This incidence agrees fairly closely with that found in Joslin's

TABLE I.  
Incidence of Juvenile Diabetes in the Clinic for Diabetes  
at The Montreal General Hospital from 1923 to 1928.  
*Children*

Year	Total Number of Diabetics	Number	Per Cent of Total
1923.....	206	9	4.3
1924.....	184	12	6.5
1925.....	220	14	6.3
1926.....	296	10	3.3
1927.....	282	13	4.6
1928.....	271	14	5.1
Total....	1,459	72	4.9

clinic at Boston, which was 5.7 per cent. How relatively low the incidence of juvenile diabetes is may be seen from an analysis of standard life tables. These show that children of 15 years of age, or under, represent about 25 per cent of large populations<sup>1</sup>. From these premises it follows that the incidence of diabetes under the age of 15 is less than one-sixth of that obtaining after that age. That the incidence of this condition is probably even lower is suggested by the fact that since the course of diabetes, in the absence of treatment, tends to be more rapid and fatal in children than in adults, relatively more children than adults tend to come to hospitals.

As to the cause, or causes, of diabetes in children, it may be said that very little is definitely known, though there is much speculation. Time

does not permit a discussion of this phase of the disease. The purpose of this paper is to present the results of a study regarding the outlook of the diabetic child. Though it would be interesting to include the experiences of cases met with prior to the advent of insulin, because of the different methods of treatment, this, again, would be time-consuming and would serve very little for the present purposes.

In order to properly estimate the outlook of the juvenile diabetic, there are three factors to consider. Each of these is clearly recognized in practice and may best be defined in terms of the questions put to the physician by the parents.

Shortly after a child is first seen in deep coma, the question invariably put by the parents is "Will the child live?" After the child has been brought out of coma and has lived for a short time, as it improves in health, as its mental and physical states approach those the parents have been accustomed to before the child had diabetes, the question invariably put is "Will it eventually be possible to discontinue the use of insulin and, if so, when?" Should the child be fortunate enough to be able eventually to keep the urine free of sugar and acetone bodies and the blood sugar normal, without the use of insulin, the question which comes sooner or later is "Will it always be necessary for the child to be on a special diet?" Stated in more technical terms, the three questions to consider are:—

- (a) Is it possible to prolong the life of the juvenile diabetic?
- (b) Is it possible to improve carbohydrate tolerance? and
- (c) Is it possible to produce a cure?

In order to attempt answers to these questions, I propose to bring before you the experience we have had with juvenile diabetics at the Montreal General Hospital since 1923. During this period seventy-one children were observed. This number does not include eight children who have been observed since the present investigation was

\*Read before the meeting of the American College of Physicians, Boston, April 8th, 1929.

made in November, 1928. Though the greater part of my remarks will be confined to our own experiences, it will not be because I do not recognize the probability of other clinics having met with similar conditions. I realize that a consensus of experience would be a more reliable source from which to draw conclusions, but there are valid reasons for confining my investigations to the limits mentioned.

Firstly, I intend to demonstrate the results of comparative studies made with reference to the influence of many variables on the course of the disease. Diet is one of these. Since in no two clinics is the dietetic treatment of diabetes *exactly* alike, by making use of the experiences of other clinics, one would be introducing variables the influence of which would be rather difficult, or, I should say, almost impossible, to measure. The second and equally important reason is that we know the different periods of time for which the great majority of these patients have been under fairly constant observation. Having been under observation, we should have a fair idea as to whether they have, or have not, followed treatment. This, as is well known, is a most important factor to consider in the interpretation of results.

The answer to the first question, that is, "Can the juvenile diabetic be kept alive?" is the simplest and most obvious, and will therefore be dealt with first. The fact that a child may be brought into a hospital in coma during the night and the following morning may be found playing with its toys speaks for itself. Of our 71 patients, 16 were admitted in, or very near, coma, and of these 16 children, 14 are alive to-day.

One case particularly is worthy of note. This child, a girl ten years old, was first seen in 1923. At that time she was in deep coma. Her home surroundings are not the most ideal, either with respect to hygiene or food supply. Co-operation on the part of her parents is practically nil. It is almost impossible, in spite of the efforts of our Social Service Department, to have the child follow treatment. On account of these conditions, the hospital is an attractive place, and she has been frequently there, her name being found nine times on our admission records. At five of these admissions she was in deep coma, and on four occasions very near it.

That the juvenile diabetic can be kept alive is still further demonstrated by the fact that of these 71 children admitted to our clinic during the last

five years, 67 are alive. Of the 5 deaths, 1 was due to an accident and 1 to pneumonia.

The answer to the second question, that is, "Can carbohydrate tolerance be improved?" is, also, not very difficult. Proof of improvement of carbohydrate tolerance may be regarded as having been demonstrated by any one of the following results:—

(a) The child, having been found to require insulin, and having had it for a period of time, can increase the total caloric value, or the carbohydrate content of the diet and, at the same time, not increase the dose of insulin; or,

(b) After having been proved to require insulin, and having had it for a period of time, the child can, without decreasing the carbohydrate or caloric content of the diet, reduce the amount of insulin taken. (If, when either the dose of insulin has been decreased and the same diet maintained, or the diet has been increased on the same dosage of insulin, the urine fails to remain sugar-free and the blood sugar normal, this is proof that no increase of tolerance has taken place); or

(c) The child, not requiring insulin, and having had its carbohydrate tolerance estimated, is found at a later date to be able to increase its diet, either as to carbohydrate or caloric contents, and, at the same time, fails to show sugar in the urine and keeps the blood sugar normal.

In the interpretation of the data obtained in such a study there are many variables to consider. I have discussed these in a previous report of a similar nature with reference to adult diabetes\*. It may, however, be stated here that, unlike in adult diabetes, it can be definitely demonstrated that carbohydrate tolerance can be improved in children. Of the 71 children, all of whom required insulin on admission to the clinic, 26 have been able to reduce the dosages of insulin and 7 have discontinued its use entirely. These figures will be referred to again.

The answer to the third question, that is, "Can present day treatment result in a cure?" cannot, as yet, be given except in the negative, at least from the experience of our clinic. There is, however, as yet, no reason for the answer to be emphatically in the negative. As a matter of fact, there are some encouraging signs to the contrary. Firstly, as in adult diabetes, there is no clinical or experimental evidence of an inherent tendency for the juvenile diabetic to get worse. Secondly, there is definite evidence that carbohydrate tolerance can be improved and,

lastly, there is no proof, clinical or experimental, that insulin loses its potency in time.

A most important point to bear in mind is that there is no sharp line of demarcation between improvement of carbohydrate tolerance and cure. Since carbohydrate tolerance can be improved, it

is essential to study the factors governing such improvement, and it is the results of this study which I regard as the most instructive of those which I wish to demonstrate.

A first glance at our records showed much confusion. In some cases it was necessary to

TABLE II.

[illegible]



increase the doses of insulin; in other cases it was not only possible to decrease the amounts, but to entirely discontinue its use. In other instances no changes were noted. It was also found that in some cases the children had gained weight; others lost weight; and in others there was no change. The same applied to the question of skeletal growth. In some cases the rates of growth were normal; in others they were increased; while in others the heights were stationary. A glance at the laboratory records also showed confusion. Judging from the blood and urinary sugar data, the diabetes was kept under control very well in some cases; in others less so; and in others not at all. An analysis of our plasma cholesterol data, which we regard as very important, from the point of view of prognosis, showed that, in some cases, the values were normal; in others they were below normal; while in still others they were markedly increased. In order, therefore, to obtain a clearer picture, it was necessary to assort the records and the results of this assortment are shown in the following tables.

In Table II. are tabulated all available findings. It will be observed that the following information was obtained in every case.

1. AGE:
  - (a) On admission.
  - (b) At present.
2. DATE OF ADMISSION.
3. PERIOD OF OBSERVATION (expressed in terms of months).
4. SEX:
  - (a) Male.
  - (b) Female.
5. BODY WEIGHT:
  - (a) On admission.
  - (b) Classification on admission with respect to being over, under, or of normal weight.
  - (c) Present weight.
  - (d) Classification at present with respect to being over, under, or of normal weight.
6. DOSAGE OF INSULIN:
  - (a) On admission.
  - (b) Present dosage.
  - (c) Classification as to whether the dosage was increased, not changed, decreased, or discontinued.
7. DEGREE OF CONTROL OF DIABETES, JUDGING FROM THE LABORATORY DATA:
  - (a) Urine sugar free; blood sugar normal.
  - (b) Urine sugar free; blood sugar less than 0.18 per cent.
  - (c) Glycosuria once a month.
  - (d) Glycosuria twice a month.
  - (e) Glycosuria once a week.
  - (f) Glycosuria twice a week.
  - (g) Glycosuria daily, but free at times.
  - (h) Glycosuria persistent.

This classification with respect to the degree of control of diabetes may appear arbitrary, but in my experience has been found practical.

It is obvious that it is possible from a re-

arrangement of the above data to determine whether there is, or is not, any relationship between any of the factors mentioned and the course of the disease. The data were first arranged in order to determine whether there was a relationship between the control of glycosuria and insulin dosage. The results of this study are shown in Table III. Here we note that only those

TABLE III.  
Relationship Between Control of Glycosuria and Blood Sugar and Insulin Dosage.

Control of Blood and Urine Sugar	Insulin Dosage			
	In-creased	No Change	De-creased	Dis-continued
Urine sugar-free; blood sugar normal.....	2	6	5	4
Urine sugar-free; blood sugar less than 0.180%.....	1	2	12	3
Glycosuria once a month.....	1	1	5	
Glycosuria twice a month.....	2	1	4	
Glycosuria once a week.....	1			
Glycosuria twice a week.....	5			
Glycosuria daily, but free at times.....	6			
Glycosuria persistent....	10			

patients who kept the urine free of sugar and the blood sugars normal or near normal, were able to discontinue the use of insulin. Of 28 patients who had to increase the dosage, 25 showed glycosuria at some time or other, and 21 had glycosuria more than once a week. This demonstration appears to me to be a positive proof of the importance of keeping the urine sugar-free and the blood sugar normal. This, I may say is contrary to the teaching of some workers in this field. This will be referred to again. From the clinical point of view no differences could be demonstrated between these children. All felt and looked very well. Clinically, it is, to-day, impossible to detect any difference between the child whose blood sugar is normal and whose urine is free of sugar and the child who takes large amounts of food and insulin and has persistent glycosuria.

In Table IV. the data are arranged to determine whether there was any relationship between

TABLE IV.  
Relationship Between Body Weight and Insulin Dosage.

Body Weight	Insulin Dosage			
	In-creased	No Change	De-creased	Dis-continued
Above average.....	21	2	4	0
Average.....	1	2	4	2
Below average.....	6	6	18	5

body weight and insulin dosage, and here we note that the two conditions are related, and that allowing the child to become overweight interferes with improvement of carbohydrate tolerance. Of the 27 patients who became overweight not one was able to discontinue the use of insulin. Of the 44 children who were normal or under weight, 22 were able to decrease the amounts, and 7 to discontinue its use entirely. Of the 7 who were able to discontinue the insulin, 5 were under weight. Clinically, there appeared to be no difference between the children who had to increase the amounts of insulin and those who were able to reduce the amounts, or discontinue its use entirely.

TABLE V.  
Relationship Between Control of Glycosuria and Blood Sugar and Body Weight.

Control of Blood and Urine Sugar	Body Weight		
	Above Average	Average	Below Average
Urine sugar-free; blood sugar normal.....	4	2	11
Urine sugar-free; blood sugar less than 0.180%.....	4	4	10
Urine showing sugar once a month.....	2	2	3
Urine showing sugar twice a month.....	2		5
Urine showing sugar once a week.....	1		
Urine showing sugar twice a week.....	5		
Glycosuria daily, but free at times.....	3	1	2
Glycosuria persistent.....	6		4

In Table V. the data are assorted in order to demonstrate whether there was, or was not, a relationship between control of blood and urinary sugar and body weight, and here the results were striking. Of the 27 patients who were overweight, only 4 kept their urine free of sugar and their blood sugar normal. Of the 44 patients who were either of average or below the average weight, 7 only had persistent glycosuria, and 10 had sugar in the urine not oftener than twice a month.

The next step, the results of which are regarded as the most instructive, was an attempt to determine whether there was a relationship between the control of diabetes and the cholesterol content of blood plasma. At this point, it will be necessary to digress, briefly, upon the relationship between plasma cholesterol and diabetes in general.

Of all measures available for the estimation of progress of the diabetic a knowledge of the plasma cholesterol, is, in my opinion, the best. Patients

may, on discharge from the hospital, have urine free of sugar and normal blood sugar, yet may show plasma cholesterol values above the normal. The majority of such patients do not appear to do well. The slightest indiscretion in diet leads to glycosuria which is not very readily controlled. Such patients are also more susceptible than others to infection and, in the case of adults, to gangrene. There is a definite relationship between duration of life and plasma cholesterol. If diabetics are classified according to the degree of control of glycosuria, one finds a definite relationship between the latter and plasma cholesterol. This is shown in Table VI. These data are based upon a study of two thousand blood examinations in 385 patients.

TABLE VI.  
Showing Relationship Between Degree of Control of Diabetes and Plasma Cholesterol.

Group	Number of Cases	Average Plasma Cholesterol
1. Urine sugar-free; blood sugar normal	314	0.184
2. Urine sugar-free; blood sugar less than 0.180%.....	332	0.209
3. Glycosuria once a month.....	400	0.230
4. Glycosuria twice a month.....	260	0.252
5. Glycosuria once a week.....	246	0.272
6. Glycosuria twice a week.....	220	0.288
7. Glycosuria daily, but free at times..	182	0.320
8. Glycosuria persistent.....	46	0.379

This demonstrates that as the diabetes is less and less controlled, that is, as glycosuria becomes more and more frequent, the plasma cholesterol increases. That these results are not accidental was shown in a statistical study of the average values recorded. For details concerning this statistical study, may I refer you to the original article<sup>3</sup>.

In view of these findings in adults, the same study was made with juvenile diabetics. The children were grouped in the same manner, and

TABLE VII.  
Showing Relationship Between Control of Diabetes and Plasma Cholesterol.

Group	Number of Cases	Average Plasma Cholesterol
1. Urine sugar-free; blood sugar normal	10	0.176
2. Urine sugar-free; blood sugar less than 0.180%.....	8	0.224
3. Glycosuria once a month.....	5	0.220
4. Glycosuria twice a month.....	6	0.286
5. Glycosuria once a week.....	1	0.260
6. Glycosuria twice a week.....	3	0.264
7. Glycosuria daily, but free at times..	6	0.236
8. Glycosuria persistent.....	7	0.350
1. No Glycosuria.....		0.184
2. Glycosuria.....		0.285

the average plasma cholesterol values were calculated for each group. The results are shown in Table VII.

It is obvious that, because of the small number of patients in each group, limited significance must be attached to these average values. In order, therefore, to treat the data statistically, all the children were divided into two large groups, namely:—

- (a) those who had glycosuria; and
- (b) those whose urine was sugar-free.

With this classification there were 20 in the former and 26 in the latter group. The results of this study are shown in the same table (Table VII). It will be seen that there was a definite difference between average cholesterols of the two groups. The corresponding cholesterol values were 0.285 and 0.184 per cent, respectively. For the statistical proof that this difference was not the result of chance may I refer you to the original article<sup>4</sup>. In other words, children with glycosuria, that is, children in whom the diabetes is not controlled, tend to have high blood cholesterol.

Further proof of this conclusion was sought from another point of view. An attempt was made to determine whether there was any relationship between plasma cholesterol and insulin dosage. For this purpose all children were divided into four groups, namely:—

- (a) those who have had to increase the dosage of insulin;
- (b) those in whom the amount required when first seen has remained unchanged;
- (c) those who were able to decrease the amount; and
- (d) those who were able to discontinue its use entirely.

The average plasma cholesterol percentages were then calculated for each group. The results are shown in Table VIII. Again, the number of

TABLE VIII.

Showing Relationship Between Plasma Cholesterol and Insulin Dosage.

Insulin Dosage	Number of Cases	Average Plasma Cholesterol
1. Increased.....	19	0.290
2. No change.....	7	0.224
3. Decreased.....	13	0.226
4. Discontinued.....	7	0.185
1. Able to decrease.....	20	0.200
2. Unable to decrease.....	26	0.277

cases corresponding to each group was small, and, in order to treat the data statistically, they were divided into two large groups, as follows:—

- (a) those who were able to decrease the dosage of insulin, and
- (b) those who were not able to do so.

The results of this procedure are shown in the same table (Table VIII). Here it will be seen that there was a definite difference between the blood cholesterol values of the two groups. Statistical treatment showed that the ratio of the difference between the means to the probable error of their difference was 4.7. From this it may be calculated that the chance against the accidental occurrence of such a difference as found between the means was about 650 to 1. That is, it is certain that insulin dosage was related to plasma cholesterol. In other words, children with high blood cholesterols are, as a rule, unable to reduce the amount of insulin taken. Clinically, there appears to be no difference between those children who had high plasma cholesterols and those whose blood was normal.

This completes our investigation. From all of the above observations the following conclusions are drawn.

#### CONCLUSIONS

1. The outlook of the child suffering from diabetes mellitus, but properly treated, is not only good, but much better than that of the adult, since proper treatment leads to improvement of carbohydrate tolerance.
2. Proper treatment consists of:
  - (a) keeping the urine free of sugar;
  - (b) keeping the blood sugar normal; and
  - (c) preventing overweight.
3. The clinical picture, (that is, the attitude, the expression, the colour and nutrition) is not a reliable index of the true progress of the diabetic child. It may be very misleading and should receive very limited consideration in the estimation of progress.

I am much indebted to Miss Eleanor V. Bazin, who is responsible for the careful collection and assortment of the data upon which this paper is based.

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## INTRAMUSCULAR INJECTIONS OF CAMPHOR IN THE TREATMENT OF ENGORGEMENT OF THE BREASTS

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**ENGORGEMENT** of the breasts in the non-nursing mother is a condition which causes constant worry. The object of this report is to summarize our findings in regard to the action of intramuscular injections of camphor in oil on the lactating breast.

Local applications of camphor have been used for many years to relieve pain in the engorged breast, but little can be found in the literature referring to the general effect of this drug as an inhibiting factor on the lactating breast. We have, at present, a collection of cases which indicates a definite inhibiting action by this drug on the secretion of milk. The treatment carried out is practically the same in all the cases tabulated. In order to avoid error, other forms of treatment which could influence the results were discarded and camphor in oil was the sole form of medication. A loose Indian binder was used in an occasional case to support pendulous breasts, but no form of pressure binder was used at any stage. After experimenting with several cases the following treatment was found to be most adequate.

Intramuscular injections of camphor in oil were given, one and one-half grains to a single dose. The first day two injections were given, with one daily injection the following three days. In any case which was not intended to nurse on account of a stillborn baby or owing to some other cause known at the time of delivery, it was found advisable to start this treatment the first day after delivery.

To simplify our results we have divided our cases into three divisions.

1. Cases which did not nurse on account of a stillborn baby, inverted nipples, etc.
2. Cases where the baby was weaned during the stay in hospital.
3. Five cases where the babies did not nurse and no medication given to the mothers.

### *Series No. 1—(Treatment started on the first day after delivery).*

Breasts remained absolutely flat.....	15 cases
Slight filling, no engorgement.....	23 "
Engorgement for less than six hours (only slight pain) .....	8 "
Engorgement for more than six hours, with pain (only moderate reaction to treatment) ..	5 "
No apparent reaction to treatment.....	4 "

### *Series No. 2—(Cases in which the baby was weaned and the breasts became full).*

Definite softening within twenty-four hours (no engorgement or pain).....	16 cases
Softening within forty-eight hours (engorgement and pain only slight).....	5 "
No apparent reaction.....	3 "

### *Series No. 3.—(Mothers who all had deadborn babies. No form of medication given).*

Every case showed engorgement with pain for over 12 hours. Average time of engorgement, 36 hours.....	5 cases
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## DISCUSSION

A review of these eighty cases in which camphor was used shows sixty-eight individuals in whom there was a beneficial result, and only twelve in whom the action was slight or absent. It is interesting to note that those eight cases in group 1, where engorgement occurred on the fourth or fifth day, lasted only a few hours, and marked softening took place within twenty-four hours. In direct contrast, group 3 demonstrates five cases where the pain was intense and the average time of engorgement was thirty-six hours.

Injection of camphor in oil is a far simpler and less painful method of treatment than that of applying tight binders, local applications of ice, or the administration of large doses of magnesium sulphate. The pharmacological action of this drug is best known as a cardiac or general stimulant. Whether its action on the breast is of a selective nature, or whether there is a definite action on the internal glandular system we do not know.

It is of academic interest to note one case which occurred in this group.



The patient was delivered of a stillborn baby, and on the following day two injections of camphor were given. (She had no knowledge of the nature of the injections). Following the second injection she became nauseated and vomited frequently during the next few hours. After the third injection these symptoms became more pronounced and she volunteered the fact that she had a constant taste of camphor in her mouth. Inquiring into her history, we found that during her life she had had an idiosyncrasy for camphor, becoming violently ill whenever she came in contact with the substance.

#### SUMMARY

1. Camphor in oil, given intramuscularly, has a definite inhibiting action on lactation.

2. Eighty cases have been cited, of which sixty-eight showed a pronounced beneficial result.

3. For the relief of breast engorgement, intramuscular injection of camphor in oil appears to be the most effective form of treatment.

#### NURSING DURING THE PUERPERIUM

In the last few years we have come to realize that the infant should not be put to breast too soon after delivery. Rest is most essential during the first few days following delivery and this cannot be obtained if the infant is forced to struggle on an empty breast. Most certainly the mother is exhausted, and she should not be needlessly tormented in the first twenty-four hours post-partum.

During the last four months, two hundred cases were selected, all of which could be classed as normal. This group excluded any case which was in labour over sixteen hours, any breech or instrument delivery, and every case which had had an extensive repair. The first hundred cases were those where the baby was put to breast eight hours after delivery. The second hundred shows those where the baby first took the breast seventy-two hours after delivery. One ounce of 5 per cent lactose was given every four hours to supplant the feeding. The following figures will show our findings.

Our observations covered the first ten days after delivery.

#### Group No. 1—(Babies first applied to the breast eight hours post-partum). 100 cases

Mothers—Cracked or fissured nipples.....	19 per cent
Babies —Starvation temperatures (100° or over) .....	12 per cent
Weight —Gained .....	.12
Lost .....	.88
Total loss .....	13186 grams.
Average loss .....	131.8 grams.

#### Group No. 2—(Babies first applied to breast seventy-two hours post-partum). One ounce 5 per cent lactose every four hours. 100 cases.

Mothers—Cracked or fissured nipples.....	14 per cent
Babies —Starvation temperatures (100° or over) .....	4
Weight —Gained .....	5
Lost .....	.95
Total loss .....	13345 grams.
Average loss .....	133.45 grams.

From the mother's point of view it is much better for the infant to be first fed from the breast when the milk appears. We know that there is much irritation caused by the infant suckling on an empty breast; this irritation often is a predisposing factor in the causation of cracked or fissured nipples. In multiparæ the after-pains on the second and third days after delivery are not so troublesome when the baby is not nursing. Examination on discharge, twelve days after delivery, showed no apparent delay in involution between the cases of the first and second groups.

The babies progress very favourably on the later nursing. If 5 per cent lactose is given at regular intervals we prevent dehydration and the usual starvation temperature. There is only a slight discrimination in weight, each infant in the second group showing 1.56 grms increased loss in weight.

Most certainly it can be concluded that the baby should not be put to the breast for at least twenty-four hours, and it appears that both mother and child benefit by waiting until the breasts show signs of filling.

Life and language are alike sacred. Homicide and verbicide—that is, violent treatment of a word with fatal results to its legitimate meaning, which is its life—are alike forbidden. Manslaughter, which is the mean-

ing of the one, is the same as man's laughter, which is the end of the other. A pun is *primâ facie* an insult to the person you are talking with.—Oliver Wendell Holmes.

## A STUDY OF THE EFFECTS OF LONG WAVE X-RAYS ON THE STAPHYLOCOCCUS AUREUS AND ON THE MICROSPORUM AUDOUINI

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THE rays known as "long wave x-rays" (grenz, borderline, infra-Roentgen) have extremely long waves, the average being 2 Angström units. They are employed in very superficial radiotherapy, as they have a very low degree of penetration.

These rays are produced by voltages under 10 kilovolts. A special tube is used, the Müller tube, which has a Lindeman glass window permitting these long wave rays to pass through. The ordinary Coolidge tube, being of soda glass, would not allow these soft rays to go through its wall.

In order to know if these long wave rays have any microbicide action, or if they have none, like the rays of shorter wave lengths, the following experiments were made in the laboratory of the Notre-Dame Hospital.

*First experiment.*—A culture of *S. aureus* made on a Petri dish received 2 erythema doses (6 minutes), and was then cultivated on a new Petri dish. The irradiated culture as compared with the control one showed no difference in the rapidity, quantity, and quality of growth.

*Second experiment.*—A culture of *S. aureus*, made on a Petri dish, received 5 erythema doses (15 minutes). Cultivated on a new Petri dish no difference was observed between this and a control culture not irradiated.

*Third experiment.*—A culture of *Microsporum*

*Audouini*, on Sabouraud's medium, received 5 erythema doses (15 minutes). This culture, resown, has developed with the same rapidity as that of the control, and without the loss of its macroscopic characters.

*Fourth experiment.*—Two guinea pigs, of about the same size and weight, were injected under the skin of the abdomen. The first received one-half c.c. of a culture of *S. aureus* diluted in saline solution and irradiated with 5 doses (15 minutes); the second, as a control, received one-half c.c. of the same emulsion not irradiated. Both animals behaved in the same way. In the following days they presented slight depression. At the inoculated point a little nodule was observed. On the fourth day both presented at the point inoculated a little scar, about 1 cm. in diameter on the control guinea pig, a little smaller on the guinea pig inoculated with the irradiated culture. The cicatrization presented nearly the same conditions in both animals, and 15 days later no trace of inoculation appeared on either.

### CONCLUSIONS

It seems in the light of these few experiments that the long wave rays have no effect, at least "in vitro," upon the microbes and fungi studied, since no change has been observed in the rapidity, quantity, quality or virulence of the irradiated cultures.

Some psychologist has observed that the truly artistic temperament enjoys being miserable. It is his contention that when we read of the trials, sufferings and unhappiness of some great musician, we should not pity him but should, on the contrary, be glad that he underwent those emotional trials. This same writer says that when we enjoy minor music, we are giving rein to the same morbid sentiment that enjoys pain. Like all generalities, these statements are not wholly accurate but no hospital worker of any experience is unfamiliar with that type of patient who "enjoys" poor health.

Some of these are wellnigh incurable because this affliction of the temperament has a firm hold. We can, however, endeavour to interest them in the beauties of life, the trees, the birds, the green grass and the loveliness of flowers which were all given man for the uplift of his soul. Better still, and as a prime requisite, we should ourselves endeavour to pitch the music of our lives in the major key. Only when we have done that can we lead others into a realization of the beauty that is apparent to the seeing eye, no matter where it may be.—*The Modern Hospital*, March, 1929.

## THE OPERATIVE TREATMENT OF SPINA BIFIDA

BY A. MACKENZIE FORBES, M.D.

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THE history of a patient recently operated upon for spina bifida has impelled the writer to prepare the following notes.

There are three varieties of spina bifida: first, a simple protrusion of the meninges which contains spinal fluid only; second, a protrusion of the meninges which contains not only spinal fluid but a portion of the cord or some of the nerve filaments; third, a protrusion of the neural canal through a defect in the vertebral column. The importance of this division lies in the fact that the suitability for operative intervention depends upon the class to which the tumour belongs.

The treatment of selected cases is by operation and, generally speaking, the most suitable cases are those in which there is a protrusion of the meninges which contains spinal fluid alone and not nerve filaments.

In the first class operative intervention is eminently successful because the obliteration of a tumour and the closure of a potential avenue for hernia is all that is required.

In the second class the protrusion of nerve filaments is usually accompanied by paralyses. In these cases we must remember that while we may eradicate the so-called spinal tumour by operative procedures, paralysis of the lower extremities or sphincters will rarely be benefited by operative procedures on the sac, because the nerve elements are often lost on the inner surface of the sac itself. And, if these be adherent to the surface of the sac, all who have operated on this class of patients will bear out the writer when he speaks of the difficulties in separating them from the sac by dissection and then replacing them.

In the third class, it is common knowledge that the prognosis in cases of syringo-meningocele is hopeless.

Until between five and ten years ago it was the custom in the hospitals to which the writer is attached to separate the sac from the covering tissues by dissection to its exit from the con-

genitally separated laminae. It was then opened in a vertical direction, in order to avoid the destruction of nerves which might be adherent to it. It was then ligatured as close to the spine as possible and excised. The superabundant parts were then removed, and the skin and other soft tissues most carefully united.

The secret of success in the operative treatment of spina bifida lies in a technique which can be carried out with the greatest rapidity. Because of this, the writer's technique was reviewed some years ago in order that there might be made available an operative procedure which would not take more than ten minutes. Because of the simplicity of this procedure and our ability to carry it out under local anaesthesia the operation can now be undertaken at as early an age as is desirable. The time of operation will depend then upon the condition of the sac and also on the child's general condition.

When the child is lying on its face with its head much lower than its lumbar vertebrae a needle is inserted into the sac through the normal skin at the base of the sac and a small quantity of spinal fluid withdrawn. This is repeated on several succeeding days. The amount withdrawn is increased every day or two until a markedly perceptible shrinkage occurs in the sac. Then, other things being at their best, the child is taken to the operating-room; this only after the skin over the tumour has been carefully prepared for some days. On the operating table the skin over and about the tumour now receives its last preparation, and the parts are anaesthetized locally, or a light general anaesthetic is administered. The tumour is now aspirated through a needle inserted in the line of the incision about to be made.

The first assistant stands opposite the operator; the second assistant stands on the former's right hand side with an irrigator containing normal salt solution raised hardly more than a foot above the level of the seat of operation.

The operator now makes a small incision with

a scalpel over the centre of the tumour in a longitudinal direction. He controls the escape of the spinal fluid, as he makes this incision, with the fingers of his disengaged hand. On the instant of the penetration of the sac by the operator's scalpel a catheter attached to the vessel containing the warm saline is introduced into the sac as the saline is escaping from the catheter. Then the spinal fluid is allowed to gradually escape while its place is being supplied by the normal saline solution. *This is done in order to prevent sudden changes of pressure in the ventricles of the brain, or the sudden closure of ventricular foramina.* The operator then continues his incision both upwards and downwards with scissors. The first assistant now grasps the cut ends of the wound with artery forceps and holds it open for the operator whilst the second assistant maintains the flow of normal saline. With a soft swab the operator now presses the lining of the sac downwards towards the separated laminae. This lining may include nerves and nerve filaments. When all nerve filaments have been carried into the opening in the vertebral column the operator endeavours to obliterate this opening by carrying mattress sutures through the base of the sac proper just as close to the vertebral opening as possible.

Before this, however, it may be necessary to freshen by excoriation the inner wall of the sac, which he has already endeavoured to denude of its lining in the way described. This is to cause the strongest possible apposition and adherence of the outer part of the wall of the sac at its exit from the spinal canal, and thus, as it were, to provide a cork for a bottle.

The superabundant tissues of the sac, viz., all that has not been made use of, are now excised by means of scissors. The skin and deeper tissues are carefully united with silkworm-gut sutures.

After the operation the patient is kept face downwards with the head at a much lower level than the seat of the operation. Glucose salines are used if necessary. Within twelve to twenty-four hours the fontanelles and the wound are examined in order to ascertain whether there is any suggestion of increased intervertebral pressure. If this is present the pressure is relieved by means of aspiration. Usually, satisfactory union of the tissues involved occurs in a week or ten days. During this time the child still remains on its face.

This operation should take between six to twelve minutes, according to the suitability of the case for operative procedures.

#### TRYPSIN AND EPHEDRIN DISSOLVED IN GOMENOL AS THERAPEUTIC AGENTS IN ALLERGIC CONDITIONS\*

By A. H. W. CAULFEILD, M.D.

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THE use of these two substances, which so far as I am aware is original, has been of definite benefit in a sufficient number of selected cases to warrant publication, with the view of thus providing a more extended trial.

The work of Prausnitz and Kuster<sup>1</sup>, demonstrating local passive sensitization, and that of Walzer<sup>2</sup> showing the passage of ("undigested") food proteins through the intestinal tract in allergic conditions (and in non-allergic individuals as well) by means of suitable skin tests, suggested the employment of large doses of trypsin or pepsin in cases of multiple food sensitization, in which for varied reasons food elimination, or desensitization, was difficult if not impossible.

\*Presented at the Clinical Meeting of the Academy of Medicine held at Christie St. Hospital, Toronto, November, 1928.

It is I think the experience of any one seeing a considerable number of such cases to find not only instances of bronchial asthma but also varied forms of urticaria in which food can be demonstrated by tests, or suspected from the history, to be a factor. The two cases I have selected for demonstration illustrate first, a combination of mild asthma with an urticarial or eczematous eruption, and secondly, an allergic (?) type of eczema.

If one may judge from the literature, ephedrin ingested or applied locally in bronchial asthma and hay-fever is highly regarded by those who have given it an extended trial. In my experience in both hospital and private practice it is a drug of the greatest value, despite its unfavourable (cardiac, nervous, etc.) effect in a limited percentage of individuals. Gomenol is an es



sential oil extracted from the melaleuca grown in New Caledonia. It is non-irritating to the mucous membranes, of rather pleasant odour, and extensively used by some for instillation into the bronchial tree in various types of bronchitis and bronchiectasis.

The bronchial instillation of gomenol in which ephedrin (alkaloid) had been dissolved suggested itself in certain cases which roughly might be classified as bronchitic asthma. By that I mean cases in which asthmatic spasms or respiratory distress occurred and were associated with a definite or presumable bronchitis, and in which there frequently was difficulty in ejecting the accompanying bronchial secretion.

Two features have been very noticeable in the cases where this has been tried that are worthy of special note. The favourable effect on the asthma, presumably due to the ephedrin, has been prolonged from about two to six days, which is of course in marked contrast to the duration of relief afforded by the ingestion of ephedrin. Secondly, no instance has been encountered of idiosyncrasy to ephedrin. Purposely, the instillation of the ephedrin-gomenol solution was carried out in a case which had responded with rather violent cardiac distress, nervousness and insomnia, after the ingestion of ephedrin. In this instance several weekly or bi-weekly instillations were given without the slightest evidence of any unfavourable result.

The method adopted has been to instil into the trachea about 2.0 c.c. of ephedrin (from 1 to 1.5 per cent) in gomenol\* (10 to 20 per cent) by the supraglottic method, by means of a Yank-hauer laryngeal syringe.

I have selected two different types of bronchitic asthma as illustrative of the benefit which they have received from their repeated instillations. During approximately a three-months' period of time, the instillation of this oily solution has been tried on seventeen cases in the chest clinic at this hospital. In only two cases has it been without favourable effect; in six of considerable; and in nine of pronounced benefit, as contrasted with all other methods previously employed.

These two methods have been presented for possible use in certain types of cases, not because it is felt that they will be of benefit in any large group, but because they have been found helpful

in selected cases in which other methods were unsuccessful, or for which no other method afforded much hope of definite therapeutic benefit.

The following is a very short résumé of the history of the four cases presented for illustration.

#### CASES ON TRYPSIN

The routine method so far has been to give 90 grains daily (in three doses of 30 grains each) for ten days, followed by an intermission.

##### CASE 1.

H. J. S., male. He had suffered from periodical bronchitis with mild asthmatic tendencies for an indefinite period of time. An attack in 1917 was definitely diagnosed as bronchial asthma. Protein tests showed slight reaction to many substances, including several of the foods. For several years he had suffered as well from a condition of the skin which was labelled eczema. Trypsin was first tried last February and the skin condition promptly improved. Now, you will see there is no evidence of his eczema and it keeps in this condition if he periodically takes trypsin, but begins to reappear if too long an interval is allowed to elapse.

##### CASE 2.

R. N., male. This case began with a history of wet pleurisy in 1917, showing later tubercle bacilli in the sputum. X-ray films show a minimal second degree involvement. For several years he has been working and can be classified as clinically well, so far as his tuberculosis is concerned. There have been no symptoms suggesting an allergic condition, nor is there evidence of hereditary allergy. For the last few years he has had a severe condition of the skin of both legs which was diagnosed as eczema, and which has resisted all forms of treatment. In despair, one of my colleagues, Dr. T. R. Wellwood, at this clinic tried trypsin about three weeks ago. As you will see, the condition has cleared entirely on one leg and shows a very marked improvement on the other.

#### CASES ON THE INTRATRACHEAL INSTILLATION OF EPHREDIAN DISSOLVED IN GOMENOL WHICH IS USUALLY GIVEN AT WEEKLY OR BI-WEEKLY INTERVALS\*

##### CASE 3.

H. J., male. This case gave a history of hospitalization for bronchopneumonia in 1923, with the subsequent diagnosis of bronchial asthma. There was also a history of different inherited allergic conditions. Protein and pollen tests showed a slight reaction to some of the epidermals and a more marked reaction to ragweed. Desensitization to the latter had since 1924 resulted in a very marked improvement. This year, however, about the latter part of September, he developed a severe and persistent asthma necessitating hospitalization and the employment of both adrenalin and ephedrin. The instillation of ephedrin in gomenol has brought about a prolonged period of benefit (3-5 days) and is much preferred by the patient.

##### CASE 4.

G. G., male. This case had had symptoms of bronchitis with varying degrees of asthma since contracting a severe 'cold' in 1914. The original diagnosis made was tuberculosis, which view was supported by stereoscopic

\*Ephedrine alkaloid is weighed with aseptic precautions and sifted on 50 c.c. of gomenol, which is then immersed for 1 hour in a water bath at 56° C.

\*A practical demonstration of the intratracheal instillation of ephedrin-gomenol was given.

films. This condition can, we believe, from several years' observation, be regarded as arrested, and the patient is clinically well. Because of the possibility of bronchiectasis lipiodol was instilled. No bronchiectasis was demonstrated, but the patient experienced relief in the production of sputum, without relief from the asthma-like respiratory distress. Because of the pronounced attacks of respiratory distress, which were for a few hours relieved by the ingestion of ephedrine, the instillation of the latter in gomenol was tried. This patient,

like most, began to experience respiratory ease in from one to two hours after the instillation, which persisted for from three to five days. The personal and hereditary history was without suggestion of any type of allergy.

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## CHRONIC INTESTINAL INDIGESTION\*

(Celiac Disease)

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### INTRODUCTION

CHRONIC intestinal indigestion (celiac disease) has been chosen as the subject of this paper for three reasons: first, because of its relative frequency; second, to present the recognized treatment of the present day; and third to report the results of cases treated in this way. In this disease there is a prolonged intolerance to carbohydrates, lasting for many months, and sometimes for one or two years, in contrast to the temporary intolerance to sugars present in infants during diarrhoeal disease, which disappears as the acute signs of diarrhoea subside.

Chronic intestinal indigestion is a disease of early childhood, and the clinical characteristics were first described by Gee<sup>1</sup> in 1888. He stated that "The celiac affection is commonest in patients between one and five years old. It often begins during the second year of life." In most cases reported recently symptoms have appeared during the second or early in the third year.

Certain clinicians speak of a celiac syndrome, comprised of three signs; (1) chronic looseness of the bowels; (2) prominent abdomen; and (3) wasting. During the course of the disease there may be at times only one or two stools daily, or again four or five. The stools are abnormal. They are pale, loose and frothy, but not watery. They contain much mucus, and have a foul odour. In Gee's original report the following statement appeared: "The pale, loose stool looks very much like oatmeal porridge or gruel." It was this appearance that led Cheadle<sup>2</sup> to group the disorder with acholia, but on chemical analysis

of the stools it has been found that bile is not absent. Large quantities of fats (in the form of fatty acids and soaps) are also found in the stools, evidence that in this condition there is poor absorption of both fats and carbohydrates. As a result, growth is impaired and these children do not develop normally. Herter<sup>3</sup> described the disease under the name of intestinal infantilism.

### SIGNS AND SYMPTOMS

At first there is slight enlargement of the abdomen. The circumference at the level of the umbilicus is greater than the circumference of the chest at the level of the breasts. This tends to disappear as the child responds to the treatment, only to return usually more markedly during a relapse; and there is a marked tendency for relapses to occur, even on a rigid dietary regime. During the early months of the disease, the abdominal wall is not thin or tense, but feels doughy. Peristaltic waves are not seen. On palpation no areas of tenderness or resistance are felt. Gas is present in large amounts. The onset of loose bowel movements is followed by a loss in weight. As the symptoms slowly subside as the result of the rigid diet, a long period of stationary weight ensues, or at best a slight gain at the end of several weeks or of three or four months. Then, if a relapse occurs, which is usually the case, the bowel movements become loose, marked distention reappears, and there is a loss in weight. There is generally no gain for a period of six, nine, or often twelve months, even with rigid dieting and good co-operation from the parents. The patients waste more in the limbs than in the face. Their flesh feels soft and flabby. Miller<sup>4</sup> pointed

\*Read at the Annual Meeting of the Ontario Medical Association at Kingston, Ont., on June 1, 1928.

out that gluteal wasting is generally seen at an early stage in the disorder. He said, "The degree of wasting in the gluteal region is disproportionally greater than that in the rest of the body, and it is this which gives the sign its diagnostic value."

In addition to these three constant signs, other symptoms are often present. During the early weeks, anorexia is a very troublesome factor, but later the appetite improves and the patient always appears hungry. Vomiting during the early weeks or during a relapse is of common occurrence. Infants who could walk about without assistance before the onset of symptoms become so weak that they are unable to stand. It may be months, not uncommonly a year, before they are able to walk again.

Chronic intestinal indigestion runs a course (characterized by frequent relapses) of many months, often one or two years, even when the patient adheres to a rigid diet. Just when the child appears to be showing signs of improvement he becomes fretful, refuses some of the feedings, and may vomit once or twice. The stools become loose again; the distention returns, generally more marked; and weight is lost. During this prolonged course there is danger of intercurrent infection. The parents usually consult several physicians and try many foods.

Some difficulty may be experienced in making a diagnosis during the early days, but after that there should be little trouble, for, as Hutchison<sup>5</sup> pointed out, "The only thing that coeliac disease simulates is abdominal tuberculosis."

The physician will save time and worry and many words of explanation during the months of treatment, if at the outset he definitely outlines the diet for a period of one to two years, and in addition explains to the parents that it is not a matter of three or four weeks, nor of a few months, but that they must look forward to one or two years of rigid dieting, and, again, that during this time there will be many relapses before the child regains good health. The parents may, however, be assured that by strictly adhering to this régime, and by taking all precautions to protect the child from intercurrent infection, that there is a good possibility of recovery.

#### ETIOLOGY

The cause of chronic intestinal indigestion is not definitely known. Some clinicians think it is due to a congenital deficiency of the gastric, intestinal, and biliary secretions. But the fact that it begins during the second year of life in

children of good physical development is not fully compatible with this theory. Cheadle looked upon it as due to an insufficiency of bile. Bile is present in the stools, but whether it is deficient in quantity is not known. Herter thought that the disease was bacterial in origin. Brown *et al*<sup>6</sup> were inclined to believe that a single organism in the intestinal flora, largely Gram-positive, is characteristic of it. But it has not been proved that this or any other organism is the specific cause of chronic intestinal indigestion. The disease has not been produced experimentally in animals. The condition is sometimes found following a severe diarrhoea.

#### TREATMENT

In the original description of the coeliac affection Gee stated, "Cows' milk is the least suited kind of food for these cases." Still<sup>7</sup> said, "Fresh cows' milk is to be entirely forbidden," and from clinical observation it is evident that carbohydrate is the one element of food which must be reduced to a minimum. Marriott<sup>8</sup> recommended skimmed lactic acid milk along with the curds of skimmed milk. In the treatment of this disorder the aim is to build up the carbohydrate tolerance of the patient. This cannot be done if a strain is thrown upon carbohydrate metabolism, which is evidently at work when the stools are frothy and contain mucus, when gas is present and the distention of the abdomen marked. By feeding a formula low in carbohydrate the stools become formed, gas and distention are lessened, and the appetite is improved. Carbohydrate tolerance is thus not overstrained, and is gradually brought back to normal.

Howland<sup>9</sup>, in 1921, described a high protein diet of three phases which, if rigidly adhered to for one or two years, usually results in making a strong, healthy child out of one who otherwise would be an extremely malnourished semi-invalid. Sauer<sup>10</sup>, Brown<sup>11</sup>, and others report good results with this diet.

During the first stage, the diet consists of protein milk only, which should be continued until the stools are formed, gas and distention diminished, and the appetite improved, usually a period of one or two months. In the second stage protein milk is used, to which are added some almost pure protein foods, such as curds from skimmed milk, scraped beef, white meat of chicken, and cottage cheese. This period may last many months, sometimes a year or two, and with its periods of relapse is very trying. But

the most difficult stage is the third, when carbohydrates are gradually added.

Reports of cases treated with the three-phased high protein diet follow:—

#### CASE 1

A. L. was admitted to the War Memorial Children's Hospital when 20 months of age, with a provisional diagnosis of tuberculous peritonitis. She was a full-term infant, and had been breast-fed for four months, followed by cows' milk mixture. The child had been in good health until one month previous to admission to the hospital. At this time the stools became very offensive and loose and contained much mucus. This "diarrhoea" had persisted throughout the month. The abdomen had become large and the patient, though walking about before the onset of symptoms, was now unable to support her weight. She was irritable and her appetite was poor. There had been some vomiting and she had lost about five pounds in weight. A history of contact with tuberculosis was not given.

On palpating the abdomen, areas of tenderness were absent, and no evidence of enlarged glands or thickened omentum was found. Shifting dullness showed the presence of free fluid in the abdominal cavity (Hutchinson, reported slight degrees of ascites in cases of coeliac disease). The Von-Pirquet test was negative on two occasions. An intracutaneous tuberculin test (0.50 mgm. of old tuberculin) was negative. The radiographic examination of the chest showed no evidence of tuberculosis. The temperature ranged between 98° and 99° F.

The child was put on a diet of protein milk only and within three days a decided change in the appearance of the stool was seen. It was semi-formed and the large quantities of mucus had almost disappeared. Soon after her appetite improved and she appeared more contented. After discharge from the hospital she was kept on this diet for six weeks. Her weight remained stationary. At this time curds, scraped beef, and minced white meat of chicken were added to the diet. She made a steady gain in weight (of nearly two pounds) during the following ten weeks. This was followed by a slight relapse and loss of some of the weight gained. The following two months were free from symptoms. She then had a relapse lasting a week, became quite weak again and lost considerable weight. For a period of three months she made steady but slow progress, when another relapse occurred, with irritability, poor appetite, vomiting and loose, bulky, and frothy stools. In two weeks she lost two pounds. Since this time she has improved steadily and now 15 months after starting the diet, is taking eggs, cream of wheat, spinach, carrots and unsweetened zwieback, in addition to the above mentioned protein foods. She is happy, strong and active, and on her feet most of the day. Her colour is good, but her abdomen is still large, being two inches greater in circumference than the chest. She has gained seven pounds since starting the protein diet.

#### CASE 2.

A. W. came under observation when 34 months of age. He had been breast fed for four months and had done very well until 22 months old, when he had had an attack of diarrhoea. The stools were described as being very bulky and frothy and containing much mucus. After some days he became constipated for a few days, after which diarrhoea returned, and during the past 12 months he had had numerous attacks of diarrhoea.

The abdomen was two and one half inches greater in circumference than the chest, and the weight 22½ lbs. (the normal weight for a child of the same age being 32 lbs.) The diet at this time was a general one, and the stools were foul, loose and contained a great deal of mucus. On protein milk (sweetened with saccharine) they soon showed marked improvement; the mucus disappeared and they became semi-formed. There was also improvement in the appetite and disposition. This continued for a little over two months, when he had a relapse, becoming very irritable, with loose stools, and losing the pound and a half gained in the previous two months. Following this, he made fairly steady progress on a diet of protein milk,

curds, fine-cut meat and cottage cheese. At three and one half years of age (eight months after starting the protein diet) carbohydrates were slowly added. By this time he had gained 6 lbs. At five years of age, his weight was 38½ lbs. His abdomen was still somewhat enlarged.

#### CASE 3.

W. B., a 12 months old infant, artificially fed since birth, had been well until three weeks previous to coming under observation, and he weighed 20 lbs. He had had a chronic diarrhoea for the past three weeks; the stools were quite bulky and contained considerable mucus. The child became very irritable, vomited some of his feedings, and his appetite was very poor. His weight fell to 15½ lbs.

During the first two months on protein milk, and the third month on protein milk and curds, he had three relapses and he gained only one-half pound over the weight on admission. During the next four months on a diet of protein milk, curds, scraped beef, and cottage cheese he had two relapses but had gained three and one-half pounds in weight. Since this time he made steady progress, and during the ninth month carbohydrates, in the form of well cooked barley porridge, were added. One month following this addition to his diet he had a slight relapse; became irritable and lost his appetite, vomited occasionally, and had loose stools which lasted for about three days. The carbohydrates were discontinued for a month and then started again, this time with no untoward results. Progress has since been continuous and his weight is now, at 28 months, 26 lbs.

There are undoubtedly varying degrees of severity of chronic intestinal indigestion. Two other cases observed were of the mild type, and in these boiled skimmed milk was used in place of protein milk, along with the almost pure protein foods already mentioned. These patients responded equally well on the high protein diet.

#### SUMMARY

1. On a three-phased high protein diet, the stools in cases of chronic intestinal indigestion show definite improvement within a few days; gas and distention are lessened; the disposition of the patient is better; and the tissue turgor slowly improves.

2. The diet and the co-operation of the parents are the deciding factors in the prognosis, and the severity of the disorder at the beginning of treatment.

3. The outlook for such patients has been much improved since the adoption of the high protein diet. Many become strong and healthy children.

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CHRONIC OTORRHOEA—ITS TREATMENT WITH  
CALOT'S SOLUTION\*

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CHRONIC aural discharge is a condition which has claimed the interest of the otologist for many years, not only because of the apparent inability of medicaments employed in its use to bring about an effective cure, but also because of the serious complications that may arise owing to long-standing discharge from the ear. Among the latter may be mentioned cholesteatoma, facial palsy, labyrinthitis, sinus thrombosis, meningitis, brain abscess and last, but not least, the more or less marked reduction of the hearing function.

The general rule in medicine, that where we have a wide array of therapeutic agents for the treatment of any condition, it can be safely assumed that none are very effective, certainly holds good in the case of chronic otorrhoea. In text-books on this subject one finds a long list of medicaments, liquids, powders, weak and strong antiseptics, caustics and astringents, and many combinations of the above, in the form of ear-drops. All these probably produce some improvement, but in only very exceptional cases give a lasting cure. Perhaps the reason for the unsuccessful results may be found in an incomplete understanding of the basic pathology that underlies the persistence of an aural discharge.

Chronic suppuration of the middle ear is a disease which owes its origin, in the great majority of cases, to middle ear infection acquired in early childhood. It is characterized by a thickening of the mucous membrane lining the tympanum, often by the formation of granulations and polyps, a more or less extensive destruction of the drum-membrane, and a purulent discharge. Not infrequently the process is not restricted to changes in the mucous membrane lining the middle-ear chambers, but involves the underlying bone, in the form of caries or as the result of a cholesteatomatous formation.

The chronic process takes its origin from an

acute otitis media. The condition which leads to the persistence of the inflammation and the development of the chronic process is not the same in all cases. Foremost among these causes is the retention of discharge, usually as the result of the development during the acute stages of obstructing granulations or of polyps. In other cases, such obstructions are caused by the presence of normal folds of mucous membrane connecting the ossicles with each other and with the walls of the tympanum, where these folds have been thickened as the result of previously existing chronic adhesive middle-ear catarrh. Another common cause for the development of chronic otorrhoea is to be found in the character of the changes produced during the acute middle-ear reaction from which the chronic process takes its origin. It is not uncommon for the more severe acute processes to produce a softening in the bone in the immediate vicinity of the middle-ear chambers. This may be in the walls of the tympanum, especially in the recessus epitympanicus or the recessus hypotympanicus. More frequently, this softening of the bone is located in the walls of the antrum or in the bony partitions separating the mastoid cells.

It is probable that chronic catarrhal conditions of the nasopharynx, especially such as are associated with enlargement of the tonsils and adenoids, not infrequently act as a cause for chronic middle-ear suppuration by prolonging any inflammatory middle-ear process.

A weakened general condition of the patient, whether the result of malnutrition, anæmia, or such conditions as syphilis or tuberculosis, may prolong the healing of the acute middle-ear inflammation until secondary changes in the mucous membrane of the tympanum develop which prevent the process of healing.

It is a well known fact that a suppurative middle-ear process restricted to the attic, with a perforation in Shrapnell's membrane, rarely, if ever, runs an acute course. The chronic character of the disease is apparently due primarily

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to faulty drainage resulting from the mucous membrane folds between the ossicles and the attic walls, which leads eventually to development of carious processes.

In those instances which proceed to relatively quick recovery, the ulcerations and the denuded bone are covered by granulations which serve as a base for the reparative ingrowth of the surrounding epithelium. In some cases, the osteitis is of such extent that local necrosis and fistula formation occur. Here, chronic infection plays a major rôle, and nature responds by the overproduction of hypertrophic granulations. The condition of bone necrosis associated with excessive granulation formation is probably the most potent factor<sup>1</sup> in the continuance of an otorrhœa in those cases not due to cholesteatoma or chronic osteitis of the mastoid bone. The hypertrophic granulations prevent the ingrowth of the surrounding mucosa and the overgrowth of the granulations may be such as to fill the entire cavum, and even project into the external meatus, forming the so-called aural polyp, which is really not a polyp in the strict sense of the word. The granulations are the source of a thin secretion which, in the presence of the usual secondary infection seen in practically every case, becomes purulent in nature. As long as the granulations continue to grow unchecked, and the infection persists, healing cannot occur and discharge will continue.

We have seen how occlusion of the pharyngeal ostium of the Eustachian tube by hypertrophic adenoid structure, or by enlarged lymphoid follicles in Rosenmüller's fossa, will serve to maintain a chronic aural discharge. However, a patent tube may produce the same result during attacks of acute rhinitis. The aural discharge here is really a pseudo-otorrhœa and is due to an overflow of secretion and inflammatory exudate from both the tube and the nasopharynx through the middle ear and thence by the tympanic perforation into the external canal. This pseudo-otorrhœa is the type so frequently observed occurring in a well epidermized radical mastoid in the presence of an acute rhinopharyngitis.

Cholesteatoma and chronic infective mastoiditis are prolific offenders in the causation of an otorrhœa, but as their treatment is strictly surgical they are only mentioned here in passing.

To summarize: It is readily seen that chronic

infection, excessive formation of granulations, osteitis and tubal disturbances are the leading factors in the maintenance of a chronic aural discharge. The aim of any therapeutic agent must therefore be directed towards the removal of these causes which maintain the otorrhœa.

Perhaps the best medicament ever employed in the treatment of chronic otorrhœa is a mixture known as Calot's. It was first used for this condition by Fotiada,<sup>1</sup> who was struck by the success of this preparation in clearing up fistulæ in the surgical wards of the Filantropia-Spital in Bucharest.

The composition of this mixture is as follows:

Guaiacol .....	1.0
Creosote .....	5.0
Sulphuric ether .....	30.0
Iodoform .....	10.0
Olive oil .....	70.0

Fussinger and Laurance attribute to the guaiacol and creosote a caustic action upon the granulations in addition to their antiseptic properties. The iodoform, besides being an excellent antiseptic, acts also as a very good cicatrizant. The ether serves the purpose of a solvent for the fatty components of the discharge, and thus allows the more active constituents a more intimate contact with the diseased tissue.

Upon instillation of the mixture active diapedesis of the polymorphonuclear leucocytes results. These leucocytes disintegrate, with a resulting liberation of their proteolytic and lipolytic enzymes which aid the bactericidal activities of the iodoform, and also assist in the destruction of granulations. The character of the discharge undergoes marked changes under the influence of this mixture. From a thick, mucoid secretion it becomes thin, serous, and brownish in colour. The fetid character of the secretion sometimes disappears, even after only one or two instillations. The increase in the secretion is not on the basis of an exacerbation of the pathological process, but rather on the basis of an acute diapedesis brought about by the medicament. The marginal epithelium spreads under the influence of the modified secretion, covers the ulcerations, and epithelializes them. Hand in hand with the changes in the mucous membrane, the secretions decrease, and the originally rich bacterial flora diminish. When the secretion becomes markedly reduced, and what is left is due to the medicament, the instillations are stopped.

One of the first points to be remembered in the treatment of chronic otorrhœa with Calot's solution is that the ear should be cleaned of all secretions that may be present in it at the time. After carefully shaking the bottle, five to ten drops of the solution are instilled into the canal of the affected ear, the head being bent to one side so that the treated ear is uppermost. In order that the Eustachian tube and epitympanic recess, which maintain the discharge, be finally disinfected, they must come in direct contact with the medicament. This is easy to obtain in the Eustachian tube, but not so in the epitympanic recess, for the latter is frequently the seat of granulation. In order to get the disinfecting fluid into the Eustachian tube the well known expedient of tragus massage is employed. In this method the opening of the external canal is closed by pressing the tragus against the canal wall and bringing alternate pressure to bear upon it so as to effect a pumping action on the mixture. This massage is kept up till the patient feels the medicament in the throat. Very frequently this cannot be done at the first sitting, either because pus or granulations block the opening. After three or four attempts, however, the desired result is readily obtained. Owing to the caustic action of Calot's solution on granulations, it will be found that after a time it will also exert its influence on the attic region.

This procedure is carried out every night for a week. Nothing else is done. By this time the secretion will have changed from a thick, ropy to a thin, serous nature. When it is also markedly reduced in amount, the instillations of Calot's solution are discontinued, and insufflations of boric acid powder are used. After several of the latter procedures, the ear will appear dry.

Those cases which do not improve readily require attention to large pouting granulations or polyps, or investigation of the nasopharynx. Granulations are effectively reduced by local applications of silver nitrate (60 per cent), and aural polyps may be snared off. At times, surgical intervention in the nasopharynx is necessary before Calot's solution will become effective in clearing the otorrhœa.

Fotiada also urges the use of this mixture in otorrhœa complicated by cholesteatoma. He obtained complete healing in many cases. This

method, if successful, will improve the hearing in these patients, which is certainly not accomplished by the radical mastoid operation. If this solution fails there is then time enough for the radical operative procedures.

This solution should also be given a trial in otorrhœas with a tuberculous basis, since this medicament was first employed in suppurative tuberculous fistulæ.

In Fotiada's series of 64 cases, 61, or 95 per cent, were cured. Of the remainder, one died of tuberculosis, one was lost sight of, and one did not respond and required the radical mastoid operation.

In a series of 68 cases treated here, by far the larger number were effectively cured by the use of Calot's solution. These cases were divided into four groups:

1. Chronic otitis media suppurativa with central perforation and thick muco-purulent discharge..	30
2. Chronic otitis media with marginal perforation and fetid discharge, often with polyps.....	24
3. Chronic otorrhœa after radical operation.....	8
4. Chronic otorrhœa with cholesteatoma .....	6

The results were as follows:

1. Thirty cures.
2. Nineteen cures. Five cases ultimately required a radical mastoid operation. Among these five were two in whom the discharge had completely ceased, but who continued to have symptoms. Calot's solution in these cases really only formed a scab under which suppuration was still going on. In addition to these, attention to the nasopharynx was required in eight cases including four operations for tonsils and adenoids.
3. All eight cases cleared up nicely. For post-operative instillation into the ear, Calot's solution was certainly found most effective.
4. No cures. The odour, apparently, became less offensive. Of this, however, one cannot be certain since the fetid nature of the discharge may have well been hidden by the drops.

#### CONCLUSIONS

1. Calot's solution, while not a panacea, is exceedingly efficient when employed in properly selected cases of otorrhœa.
2. This solution should be tried in cases of chronic osteitis before deciding on the radical mastoid operation.
3. The basis of its efficiency in the treatment of chronic otorrhœa, as described in Fotiada's

original article, makes one believe that it deserves at least a fair trial in most cases of prolonged aural discharge.

4. It is of very little value in those cases complicated by cholesteatoma.

5. Its use must be intermittent, insufflations of boric or zinc oxide powder being used to round off the treatment.

6. Most cases of otorrhœa, not due to cholesteatoma, and not on the basis of lues, diabetes, local malignancy or actinomyces, respond readily to its use.

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## Case Reports

### TWO CASES OF LID REPAIR\*

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#### CASE 1

F.S., an adult male of 54 years, was referred to the Eye Clinic at the Montreal General Hospital because of discomfort of the left eye due to pain and epiphora. The history was that the lid condition followed an accident sustained three months previously, when in falling on a concrete floor his glasses were broken and the upper and

lower lids cut. The injured lids were sutured at that time, and while the injury in the upper lid was completely corrected, there remained a troublesome ectropion at the outer side of the left lower lid due to contraction from scar tissue.

Examination showed a V-shaped area of scar tissue, involving about the outer quarter of the left lower lid margin, and causing an ectropion at the inner side of this scar. He complained of the annoyance caused by tears running over the cheek, consequently he was sent into hospital for a repair operation.

On November 24, 1928, under a general anæsthetic, the scar tissue was excised, and an incision made parallel to the lid margin at its outer border for about three-quarters of an inch. The skin and subcutaneous tissues were under-cut on either side until the edge

\* Cases shown at the meeting of the Montreal Medico-Chirurgical Society at the Montreal General Hospital, January, 1929.



FIG. 1—Case 1—Original injury.

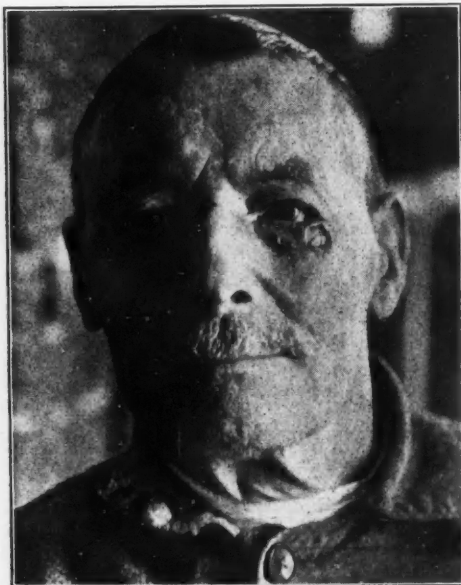


FIG. 2—Case 1—Cavity left by removal of the compound.



of the lid was so free that it went properly back into place. A Thiersch graft was then taken from the left upper arm, wrapped about a piece of dental compound, and placed in the cavity made. It was held in position by

three sutures. Upon the sixth day following the operation, the compound was removed and a dry dressing applied. When the compound was removed there was naturally quite a cavity left (see Fig. 2). It is well to understand that these cavities disappear in a short time, leaving

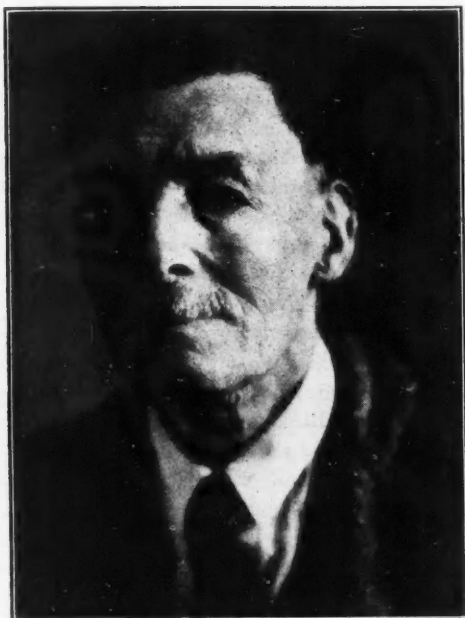


FIG. 3—Case 1—Final result.



FIG. 5—Case 2—The eyeball completely covered by new lid.



FIG. 4—Case 2—Original injury.



FIG. 6—Case 2—Final result.

the repaired surface quite flat, (see Figs. 1, 2, and 3).

#### CASE 2.

E.P., an adult male of 46 years, a subject of acromegaly with glycosuria and hyperglycemia, was referred to the Department because of the condition of his left upper lid. The history was that following a burn of the face on June 17, 1928, he had suffered from scar contracture of the skin of the lid. This was so severe that he was unable to close the eye without everting the remains of the lid almost completely.

Examination showed extensive scarring of the face, with a marked ectropion of the left upper lid, leaving the eyeball quite unprotected.

Under a general anæsthetic on September 26, 1928, a repair operation was done. As protection of the eyeball was the first consideration, and cosmetic results secondary, a free incision was made along the border of the remains of the upper lid from one end to the other, to insure complete covering of the eye. The skin was undercut and so freed that the eyeball was completely covered. This was in fact overdone, to allow for wrinkling. A piece of dental compound was then shaped, so that it fitted exactly to the raw surface prepared. A Thiersch graft was then taken from the left upper arm, wrapped about the compound and placed on the prepared surface where it was held by six sutures. The compound was removed on the sixth day.

### SYPHILITIC CIRRHOSIS OF THE LIVER WITH UNUSUAL COMPLICATIONS

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The following case is reported for two reasons: first, as an example of an interesting combination of important anatomical lesions of apparently different etiology; and secondly, as an illustration of the difficulties which were thus introduced into the clinical picture. As regards the latter it may be added that the symptoms conclusive of one anatomical lesion were so pronounced and effective that they completely overshadowed the others.

The case concerns a man of 48 years, an electrician by occupation, who for the past five years had complained of progressively severe attacks

of swelling of the feet and ankles which had been followed by the gradual development of ascites, shortness of breath on exertion, palpitation, a chronic unproductive cough, and general weakness. He stated in addition that he was twice gassed during the war; had had a discharge of bright red blood per rectum three years ago, and a second time two weeks before this admission; had had occasional attacks of blurring of vision, headache, specks before the eyes, and some loss of weight. In his previous history he had had the usual diseases of childhood, and an attack of influenza in 1920. He had always been a heavy beer-drinker, consuming as much as twenty-four quarts daily for a long period.

On admission, he showed moderate respiratory distress; tremendous abdominal distension, and œdema of the legs, scrotum, abdominal wall, and of the back as far as the angles of the scapulæ, the axillæ, and under surfaces of the arms. There was an icteroid tinge to the conjunctivæ. His chest was flat; the percussion note was diminished; there were moist râles at both bases; broncho-vesicular breathing and numerous sonorous rhonchi. His voice was husky. The blood pressure was systolic 118, and diastolic 42, and a rather soft indefinite systolic murmur was heard at the apex. Examination of the fundi of the eyes disclosed advanced retinal arteriosclerosis. The urine had a specific gravity of 1012, was bile-tinged, but otherwise was negative. Red blood cells were 3,760,00 per c.mm.; white bloods cells 11,800; hæmoglobin 80 per cent. The blood Wassermann test was strongly positive. The serum was bile-tinged. Following paracentesis a hard, sharp, liver-edge could be felt two fingers' breadth below the costal margin.

Most noticeable during his stay in hospital were irregular periods of fever, during which the temperature rose to 103°; this condition would last for two to three days, and then be followed by several days of normal and sub-normal temperature. Œdema and ascites gradually increased; jaundice became more apparent. The patient had periods of irrationality and three weeks after admission he expired.

Taking into consideration the symptoms, physical signs, and the results of more detailed examinations of blood chemistry which need not be reported here, a clinical diagnosis of cirrhosis

of the liver was made, which, with the positive Wassermann reactions, was taken to be of syphilitic origin, with resultant obstruction of portal circulation. His unproductive cough and hoarseness were evidently the result of a chronic laryngitis, the exact character of which remained uncertain as the larynx and vocal cords were obstructed by much mucus.

Autopsy results disclosed in the first place a large, irregularly nodular, in parts lobated, cirrhotic liver, which on section showed thick greyish scar tissue separating yellowish bile-stained areas of liver substance. The normal liver markings were almost completely obliterated. The weight of the liver was 1490 grams. At the time of autopsy, and after the microscopic examination, the liver lesion was interpreted as a syphilitic cirrhosis. With it went splenic enlargement.

So far the anatomical report fully corroborated the clinical diagnosis, but in addition to these findings three other important lesions were encountered.

First, as regards the lungs. The apices of both lungs disclosed two separate anatomical lesions: (a) small, purulent cavities, surrounded by dense fibrous tissue; (b) fibrotic, caseous tubercles with calcification. Throughout the right lung, in addition, numerous peri-bronchial tubercles with cheesy broncho-pneumonia were found. The bronchi themselves were covered by yellow cheesy material. Immediate smears from the apical cavities and the yellow cheesy material in the bronchi disclosed tubercle bacilli.

Secondly, on the left ary-epiglottidean fold of the larynx was a small, punched-out ulcer, slightly indurated with a grayish-yellow base. This was covered by a muco-purulent material similar to that seen in the bronchi, and also showed the presence of tubercle bacilli. (Subsequent microscopic examinations have made it doubtful if the laryngeal lesion was really of tuberculous origin, and not rather of a syphilitic nature, inasmuch as the ulceration was characterized by much cicatrization and vascular thickening, but without any more typical evidence of tuberculous infections, such as cheesy disintegration or a more typical tuberculous granulation tissue. A search for tubercle bacilli in these sections was in vain. Moreover, it could be assumed that the presence of tubercle bacilli in muco-purulent material scraped from the

larynx might have been brought up from the caseous material found present in the bronchi. The anatomical evidence, therefore, still left in some doubt the exact etiology of the laryngeal lesion).

Finally, one other important lesion, referable to the heart, was disclosed by autopsy. The ventricular surface of the posterior aortic cusp had attached to it a large, soft, reddish, fleshy polypoid mass, firmly adherent to the endocardium, at the base of which was found a small, ulcerated perforation of the valve. The myocardium and other parts of the endocardium were apparently intact. Microscopic examination of this vegetation showed it to be composed of fibrin, polymorphonuclear cells and leucocytes, and numerous Gram-positive cocci in pairs and clusters.

#### DISCUSSION

The interest of the case rests, of course, in the multiplicity of anatomical lesions of quite different character. In the first place, a more or less typical cirrhosis of the liver, apparently of syphilitic origin; secondly, an old tuberculosis with small cavity formation in both lungs and lymph glands with more recent broncho-pneumonic extensions into the right lung; thirdly, an ulcerative laryngitis of either tuberculous or syphilitic character; and fourthly, a verrucose, large polypoid, but restricted, ulcerative endocarditis of the aortic valve.

It is not surprising, therefore, that the clinical picture in this case was complex, and also that the evidences introduced by one set of lesions consequent to the cirrhosis of the liver more or less completely overshadowed the other anatomical lesions. The comparatively fresh appearance of the aortic vegetation and the irregular septic fever periods, which appeared relatively late in the disease, make it probable that this late generalized infection was a strong factor in the fever production. That syphilis was the etiological factor in the cirrhosis of the liver was indicated not only by the gross appearance and distribution of the cirrhosis but also by the strong Wassermann reaction. Finally, in spite of the history of chronic indulgence in alcohol, no lesion could be demonstrated for which it alone could be blamed. The arterio-sclerosis was no more extensive than one might expect to find present at this age period, the

myocardium was unaffected and though, it is true, hepatic cirrhosis was present, syphilis rather than alcohol seems to have been the etiological factor.

My thanks are due Dr. Hoerst Oertel, Professor of Pathology, and Dr. William Chase for their assistance and helpful criticism in the preparation of this report.

### PULMONARY GANGRENE WITH EMPY- EMA AND ACUTE MENINGISMUS, DUE TO ASCARIS LUMBRICOIDES\*

BY L. A. MIDDLETON, M.D.

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Intestinal infestation with *ascaris lumbricoides* is so very common in children that it is often regarded by the laity, and even by some members of the medical profession, in the same light as mumps and measles—an almost necessary evil, to be endured and recovered from before adolescence is reached. That a child has, or may have, worms is apparently more often considered as an insult to the eye and the imagination than as a cause for alarm or anxiety. The following case is considered noteworthy in that it illustrates the fact that grave complications and unusual clinical pictures may arise from this infestation.

S. K., male, aged four years, was admitted to the Children's Memorial Hospital in January, 1929, because of deepening coma, marked stiffness of the muscles, and a discharging right ear. He was born in Hungary, always healthy, and had been brought to Canada only two months before. The doctor who recommended his admission considered him to be suffering from meningitis, possibly as a complication from his otitis media. His mother and father were alive and well, and one other child was apparently healthy. The right ear had begun discharging two weeks prior to admission, and this had continued with little apparent discomfort. Two days before admission the patient became restless and drowsy. The drowsiness had gradually progressed until the time of admission, when he was absolutely comatose. He vomited several times before arrival at the hospital.

Physical examination at the time of admission

\*From the Pathological Laboratory of the Children's Memorial Hospital, Montreal.

showed the child to be very well developed and well nourished. No response of any kind could be elicited. The breathing was rapid and laboured. The body generally was of a pale dusky colour, the lips cyanosed; the hands, feet and dependent parts, a mottled blue. The pulse was weak and thready, 120 per minute; the temperature was 97.2°. On the right side of the face, along the line of the jaw and over the scalp, were a number of superficial crusted ulcerations. The percussion note, particularly over the left chest, was definitely impaired, and everywhere over the chest could be heard fine and coarse moist râles. A friction rub was made out just below the left nipple. Blowing breathing was present over the left scapula, and throughout the remainder of the chest there were diminished breath sounds. The heart did not appear to be increased in size and the sounds were indistinct and irregular. The muscles everywhere were spastic; the jaw clenched, the abdomen rigid, the limbs stiffened, and the neck could not be flexed. No reflexes could be obtained. Kernig's sign was not present. Both eyes were closed, and the eyeballs moved slowly from side to side. The pupils were equal, of normal size, and reacted to light. The other systems were found to be normal. A tentative diagnosis of pneumonia, right otitis media, and meningitis was made.

After admission a spinal puncture showed increased pressure, but the fluid contained only 35 cells per c.mm., and these were chiefly monocytes. Pandy's test for globulin was negative, and the fluid did not reduce Fehling's solution. Cultures made from the fluid were sterile.

The child showed a slight transient improvement following the spinal puncture, but soon the pulse became imperceptible at the wrist, the breathing very irregular, and death ensued twelve hours after admission.

At the autopsy, performed twelve hours after death, the brain and meninges showed no evidence, grossly, microscopically, or culturally, of any infective process. The right middle ear contained pus and granulation tissue. The mastoid antrum was not involved. On opening the abdomen the abdominal organs were found to be normal, save for the fact that the intestines and stomach contained about forty ascarides lumbricoides. These were scattered mainly in the upper small intestines; two were found in the stomach; and a large number formed a ball in the upper ileum. The left pleural cavity contained about 500 c.c. of thin, dark-brown pus.



The left lung was practically collapsed, the lower lobe airless, firm and brownish-green in colour. Two and a half inches of the cephalic extremity of a round worm protruded into the left pleural cavity through a perforation of the lower lobe posteriorly, near the hilum. The worm was greyish-white in colour, about five inches long, with two lance-like projections from a subterminal cloaca (male). It still exhibited slow movements. The track along which this worm had passed could be traced into the lung substance. Apparently it must have been regurgitated from the stomach to the level of the larynx and aspirated into the left bronchus, which it perforated to reach the present position occupied in the lung. The opposite lung showed patchy areas of acute consolidation. The other organs were found to be normal. The anatomical diagnosis was:

Intestinal ascariasis; an *ascaris lumbricoides* in the lower lobe of the left lung; early gangrene of the lower lobe of the left lung; perforation of the left visceral pleura; early empyæma, left; bilateral bronchopneumonia; right otitis media.

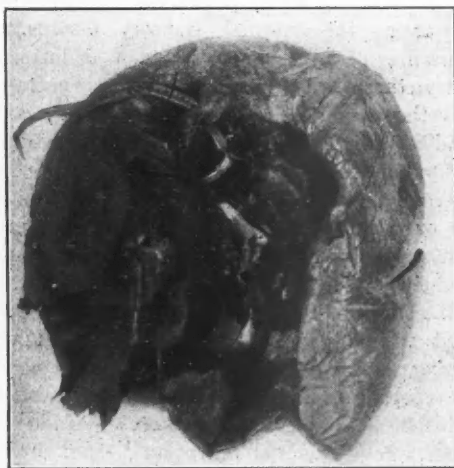
#### DISCUSSION

*Ascaris lumbricoides* is probably the most common human parasite, especially in children, and as it does not require an intermediate host infection takes place through food or drink, or by the fingers in the case of children who have been playing where soil pollution exists. Stewart<sup>1</sup> noted that the eggs of this parasite may hatch out in the intestines of rats, mice, and pigs and that these may serve as a means of infecting man. The disease is found in all countries, being particularly prevalent in the tropics, but cases have been reported from the Arctic regions.

The ova, which are covered with a thick, coarse, albuminous mantle, become infective, depending upon the temperature, in two weeks to one month after being passed. During this time an embryo develops, and it is stated that it may remain alive in the shell for years. After being swallowed the embryos leave the egg, pierce the intestinal wall, reach the liver through the portal system and thence the lungs through the systemic circulation. They penetrate the bronchi, pass up the trachea, are swallowed, and reach the small intestines, where they develop into adult worms. An interesting point is that when the primary infection is heavy the larvæ may, when in the lung, produce a pneumonia with cough and bloody sputum, lasting about

two to seven days and ending by crisis. It is stated that the number of adult worms usually present is small, about four to ten, but they may occur in enormous numbers, five thousand having been recorded in one case.

The symptoms usually attributed to worms are abdominal pain, umbilical or colonic, mucus in the stools, occasional loose stools, and indigestion, sometimes anæmia and eosinophilia. But occasionally unusual clinical pictures are produced and the diagnosis for a time is unsuspected. There is a type represented in the case under discussion, in which nervous symptoms resembling meningitis are so marked that they dominate the picture. Giampetruzzi<sup>2</sup> recently reported a case of this variety in which tuberculous meningitis was simulated. Piper<sup>3</sup> and others have suggested that these nervous symptoms may be due to a peculiar irritating toxin which is formed by this parasite and is often



View of the medial surface and hilum of the left lung showing an *ascaris lumbricoides* piercing the pleura and protruding from the upper posterior border of the lower lobe. The lower lobe is darkened in colour and exhibits early gangrene.

evident to the sense of smell. Occasionally, in adult patients, nervous symptoms of marked neurotic nature have developed from the mental shock experienced in the passage of a worm. Chauffard, Marie and Tauchon<sup>4</sup> report a remarkable condition of fever, foul breath, and intermittent diarrhœa, which they term typho-lumbricosis, and more recently Banerji<sup>5</sup> has added another case of this variety. This febrile condition may last a month or more and may be associated with marked anæmia and high eosinophilia. In certain individuals, research workers

and slaughter-house employees, the so-called "gut-cleaners," who handle these worms, a peculiar hypersensitiveness, not unlike the phenomena associated with asthma and hayfever, sometimes develops from contact with the toxin of *ascaris lumbricoides*. It has been suggested that the worms may themselves suffer from disease, and at this time the toxin produced by them is much more virulent towards man. Various attempts have been made to employ a toxin of extracts of crushed worms in cutaneous tests for diagnostic purposes, but the results have not been found satisfactory. According to Coventry and Taliaferro<sup>6</sup> and Rackemann and Stevens<sup>7</sup>, there exists no correlation between positive skin tests and the presence of infection.

The migrations and complications of these intestinal helminths are most interesting. They have been known to enter the biliary, pancreatic and even the lacrimal ducts; to travel through the Eustachian tube, pierce the ear-drum and appear at the external auditory meatus. A worm may perforate an ulceration of the intestine or even the healthy intestinal wall to gain entrance into the abdominal cavity. Blanchard<sup>8</sup>, compiled 81 cases in which these parasites actually perforated the abdominal wall and appeared externally, most often in the region of the umbilicus or groin. The possibility that they may gain access into the peritoneal cavity through operative measures on the intestines must always be thought of. Stiles<sup>9</sup> refers to 40 cases in which adult worms have been found in the lungs, causing gangrene and pneumonia, and Dixey<sup>10</sup> has reported an instance of sudden death due to occlusion of the larynx by two *ascarides lumbricoides*. In abdominal operations, especially in the Orient, the surgeon not infrequently finds an intestinal obstruction or a perforated appendix, due to the *ascaris lumbricoides*.

The first step in the treatment should be directed against auto-infection by thorough cleansing of the hands after defaecation. The stools should be sterilized with disinfectants or heat. On the day previous to active treatment the patient should be on a soft diet and castor oil given at night. Santonin, in doses of one to five grains, with calomel one or two grains given the following morning, followed in three hours by a large saline purgative, is usually sufficient. It is well to repeat this medication the following morning, and again later, if ova are still found in the stools. Oil of chenopodium, male fern, or thymol may also be used.

#### SUMMARY

1. The *ascaris lumbricoides* is one of the commonest parasites of man.
2. It may produce obscure symptoms resembling acute pneumonia, a continued febrile condition, or, as in our case, meningismus, in which the true nature of the condition may not be recognized.
3. Hypersensitiveness to its toxin may be exhibited by certain individuals, which can be detected by skin tests. These are, however, not diagnostic of infestation.
4. Certain of these parasites exhibiting nomadic tendencies are found in the most unlikely places, and they may even penetrate previously healthy tissue, the ear-drum, intestinal wall, urinary tract or, as in our case, the lung and pleura.
5. Transmission is usually direct. An intermediary host is not necessary in the life cycle of the *ascaris*, but rats, mice, and pigs may possibly also serve as a means of propagation.

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#### AN UNUSUAL CASE OF EXOMPHALOS, OR EXTROVERSION OF THE VISCERA, IN A NEWBORN.

By S. W. BAKER, M.D.

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The mother was a primipara, aged 25, with normal pelvic measurements. Her pregnancy had followed the normal course, and the expected date of confinement was January 31st, 1929.

The *Personal and Family History* of both parents were quite negative.

The mother went into labour at 2 a.m. February 22nd, 1929. Examination showed a vertex presentation in the left occipitoanterior position. Dilatation of the cervix, rupture of the membranes and descent of the head were completed at 6 a.m.

From this time until 9 a.m. there was no further progress; so, under ether anæsthesia, I applied forceps and delivered the head. In trying to deliver the body, I felt that there was something holding it back; however, after several attempts, I succeeded in delivering the baby alive and found a large "hernia" of the umbilical cord, containing the abdominal viscera. The rest of the delivery was terminated as usual.

This "hernial mass" was about the size of a large grape fruit, had a very thin covering through which various abdominal organs could be seen. The umbilical opening was about  $1\frac{1}{2}$  inches in diameter, and I could not succeed in replacing any of the organs, after several attempts. The baby was a vigorous male child, and after much

urging by relatives, I consented to operate on it fourteen hours after birth.

Under ether anæsthesia I made an incision on one side of the mass close to the umbilicus, and it was clearly apparent that all the organs, including the liver, were contained in this sac. On exploring, I found an opening in the peritoneum in the neighbourhood of the lesser omentum, which would only admit the index finger. All the intestines, stomach, and spleen could be replaced through this opening, but in no way could I get the liver and omentum back; furthermore, there was no room for the liver anywhere in the abdominal cavity. Accordingly I sewed up the opening in the sac. The child died fifteen hours after the operation.

## Special Articles

### HEALTH INSURANCE\*

#### ARTICLE II.

By J. H. MACDERMOT, M.D.

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Health insurance has existed in other countries for a long time in one form or another. There are, for example, the voluntary mutual aid organizations, which we have in this country, in the form of lodges, benevolent societies, etc. In European countries these have been used in carrying out the operation of the Insurance Acts. The defect of these is, of course, their cheapness and incompleteness of service; and they do not meet the demand for preventive work in any way. Belgium, Austria, Denmark, Germany and Great Britain have all had the experience of beginning with voluntary organizations, which were gradually brought under government supervision, and used as carriers for the Acts later put in force.

#### THE NATIONAL INSURANCE ACT OF GREAT BRITAIN

Great Britain's National Insurance Act is, perhaps, of most interest to us, and is worthy of a careful analysis for our purposes. Coming into existence in 1911, it has been in operation continuously since 1912. It shews the following main features.

(1) It is compulsory on all persons between 16 and 70 who are employed in manual labour, and who earn less than about \$1,000 a year. Provision is made for others to come voluntarily under the Act. Under this, from 50 per cent to 60 per cent of the adult male, and about 20 per cent of the

adult female population, are insured on a compulsory basis. *Wives and families are not included.*

(2) It is contributory. The State contributes two-ninths, the employer three-ninths, and the workman four-ninths, in the case of men, women being provided for in a slightly different ratio. Special provision is made for low wage-earners.

(3) It is *limited* as to medical aid. Specialists, major operations, hospitals, x-ray, and nursing service are not provided in the original Act. From time to time slight additions have been made.

(4) Sick benefits are paid, up to a certain time. Maternity benefits are paid, up to a limited amount.

(5) Details of administration. These are quite complicated. Suffice it to say that "approved societies," including friendly societies, trade unions, industrial insurance companies, etc., are largely used to administer the Act. There are "local" committees.

(6) Medical men who wish to take this work have their names entered on a list, "the panel." A patient may choose any doctor from this list. Medical men are paid by capitation fees, so much per patient annually. Panel practice does not preclude private practice.

(7) There is considerable provision made for health work, preventive work, pre-natal and post-natal care, largely, in the case of the latter, by voluntary organization, as in this country.

Since the inception of the Act, there is no doubt that a marked improvement has taken place in conditions in Great Britain. We must remember, however, that conditions before the Act, in the densely populated areas of the country, were unspeakably bad, far worse than anything in this country. "Sixpenny doctors" were common, and large numbers of the population got little or

\*The first of this series of articles appeared in our issue for April, 1929, p 399.

no medical care, except through infirmaries and public dispensaries, so that it would not be hard to improve on this condition. From the doctor's point of view, there has certainly been a great improvement in some areas. The opinion expressed by any doctor who has done panel practice seems to vary with the area in which he has worked. In the smaller industrial towns and semi-industrialized districts one hears fairly favourable reports; doctors do well, and where one doctor was unable to earn a living, we find now a man employing three and four assistants and prospering. On the other hand, we hear from men who have worked on busy panels, of seeing forty or fifty people, or more, in an hour, diagnosing being done by the patient himself or herself, and an appropriately numbered bottle or pill being prescribed, *à la militaire*. This is not the practice of medicine in accordance with the best traditions, nor is it conceivable that our people would consent to this "nickel in the slot" method of treatment. Nor, in the light of our modern knowledge, is a partial system worth very much. It would be far better to pay a little more, and get good service. This is fully realized by our British confrères. However, the National Insurance Act of Great Britain has been a step in the right direction, and such men as Dr. Alfred Cox, Secretary of the British Medical Association, J. H. Thomas, M.P., and many others have spoken warmly of its value.

One warning that should be taken from British experience is that commercial insurance companies should not be concerned in the administration of the Act, or as carriers. This allows private profit to be made out of the workers' fees, and should not be permitted. Protests have been made against this by such people as Miss Margaret Bondfield, the well known labour leader, and many other writers on the subject.

Undoubtedly the greatest weakness is its limited character. If the idea is to throw a sop to the Labour Cerberus, no doubt a cheap limited Act could be made very attractive-looking for a time. Its cheapness would obscure its limitations for the person of moderate means, who, as so often happens, fails to realize that the good article may cost more, but is so much more satisfactory and durable that in the long run it is the cheaper of the two. If we are to have health insurance at all, it is to be hoped that our legislators will see fit to put into operation a sound scheme, as was done in the case of workmen's compensation.

In the course of addresses given in the United States in 1921, and, later, in an article written in 1924, Dr. Alfred Cox, Medical Secretary of the British Medical Association, has much to say of the workings of the National Insurance Act in Great Britain. He refers to the conditions that obtained before its inauguration, shews the evil effects of dispensary and "contract practice," as it was called, both as regards the patient and the doctor, and tells of the inadequacy of medical treatment. In dealing with conditions subsequent to 1911, he describes the struggle between

the British Medical Association and the government, the difficulties that were met and surmounted, and lays especial stress on the necessity for union in the profession, for a clear understanding of the issue, and for the winning and retaining of public sympathy. (These three things, it would seem to us, are the points that must be emphasized most strongly.) Later in his articles, he dwells on a great danger, as he sees it, that may exist in national or state health insurance, *i.e.*, the danger that we may be used as pawns in the political game, and may be drawn into political fights by wily politicians, far more experienced than we could ever hope to be. This latter is, we feel, a very serious danger. It can only be removed if the Act, if Act there is, be administered by an extra-political commission, as is the Workmen's Compensation Act.

Dr. Cox finds that national insurance has, in many ways, been a very important agency for improvement. As far as the physician goes, it has increased his practice, has increased his income from the wage-earning class, has "raised the standard for all medical remuneration," and in addition has given him a new and greater interest in preventive work. He does not feel that scientific research has benefited much, but general health work has been markedly affected for the better. The system of records has been particularly valuable. He gives it as his considered opinion that, in so far as those doctors who are working under the Act are concerned, not one in a thousand would go back to the old system. Those who do not work under the Act are often loud in its condemnation, but this, of course, is not altogether a fair criticism of it.

Dr. Cox is strongly opposed to any of the organization or administration being done by commercial insurance companies. In this, he is in agreement with many other observers. He is also opposed to friendly and benevolent societies having anything to do with the medical benefit. He is convinced of the necessity for complete service, for which, he states, there is a strong public demand. The Act should include the wives and families, who are not at present taken care of by it. It should also provide for specialists and consultants and hospital treatment. He closes his article with the following sentence: "Finally let me say that the . . . Medical Association would do well to insist on getting such remuneration as will enable the doctors undertaking the work to make a fair income for that work, without the temptation to undertake more of it than the conscientious doctor knows can be done *under modern conditions, with justice to himself, and his patients.*" (The italics are ours)

#### CONTRACT PRACTICE

What about existing contracts, such as are entered into by railway companies, mining and logging companies, and so on? Here, it seems to us, the history of the Workmen's Compensation Act is again useful and illuminating. When this was begun there were some five hundred or more



contracts dealing with accidents throughout the province. At first these were put under the head of "approved plans," and the test gradually applied to them—did they give the workman as much protection and as cheaply as did the Act? One after the other they were weeded out, till now there are a scant dozen or so in existence and these are mainly with certain large companies, and some that are temporary and makeshifts.

#### INSURANCE COMPANIES

What about insurance companies? These have, so far, opposed health insurance bitterly. Such companies as the large industrial insurance companies of the United States have published a great deal of argument against any form of health insurance. We cannot quite see why. The section of society that would be included under health insurance is a very barren field for the insurance company. As has been said, less than 5 per cent has any insurance against sickness or accident, and this included lodge benefits. It is our opinion that insurance companies would not suffer at all. As regards "industrial insurance" so called, the vast bulk of this is for death benefits, and it is difficult to see how these would be affected. In any case, where a 45 per cent to 50 per cent overhead, with commercial insurance companies, is contrasted with a 4 per cent and 5 per cent overhead, under state control, there can be no argument for allowing the former to stand in the way of the latter.

#### LODGES, BENEVOLENT SOCIETIES

How would such an Act affect lodges, benevolent societies, etc.? Undoubtedly it would affect them considerably. The medical benefits are a strong drawing-card for many benevolent organizations. But they, like the insurance companies, cannot, under a voluntary system, compete with a compulsory state system, and cannot give as much for the money.

#### HOSPITALS

What would be the effect on hospitals?

Undoubtedly there would be a greatly increased demand for hospital accommodation. The British Columbia Hospitals' Association is somewhat exercised over this possible effect. However, as all hospital treatment would be paid for, doubtless the matter could be arranged for without hardship to any, although the initial outlay would be somewhat of a problem.

#### ADMINISTRATION

We feel that any Health Insurance Act should be administered by an extra-political commission, appointed as is the Workmen's Compensation Board, and that machinery should be cut to the minimum necessary. This implies giving somewhat arbitrary powers to the Board. On the whole, however, this is, perhaps, the best. Appeal Boards, etc., where in force, double the cost, and do not remove friction, as they were expected to do.

How would the Act at first be administered?

No doubt chronic and incurable cases, would, at first, be excluded. Tuberculosis and venereal disease would probably be taken care of as at present. This type of case would overload the Act at first, and render it unworkable. Time loss might be arranged for later than medical aid. This is, however, a matter of opinion. Labour, naturally, wants this included at the outset. A wage-limit would be set. All those earning less than a certain amount would come under the Act automatically—provision would be made for others to come under it voluntarily. The plan of the Workmen's Compensation Board would be followed in most particulars.

It is possible that administration would have to vary in urban and rural districts, and in areas very thinly populated. Logging and mining camps, too, might require special rules. As a matter of fact, these have been operating on a system of contributory payments for a long time, and in most cases very satisfactorily, as far as medical care is concerned. There is, however, no provision for time loss, or preventive medicine; and most of the contracts omit major surgery for the families, and maternity care, or pay only part of the cost of these.

Our Executive Secretary, Mr. C. J. Fletcher, some years ago, made a complete analysis of all the contracts in the province. He has recently brought it up to date. These data are of great value in shewing approximately the cost of various grades of medical and hospital service. The larger and more settled communities have good hospitals, with every facility for complete examination and treatment. In such places very little modification would be necessary to bring existing conditions into line with health insurance.

Many suggestions have been made for the gradual introduction of health insurance. Dr. H. E. Young, Provincial Medical Officer of Health, has suggested that, at first, conditions might be greatly improved if laboratory, x-ray, and other methods of diagnosis, were provided free of charge to the patient, who would pay other medical bills as before. Again, it has been suggested that hospitals should be free to all, including these diagnostic services, and their charge should be met by a special tax. Whether these plans will be used as introduction to a more complete and comprehensive scheme cannot yet be known, but it would seem, on the face of it, that it would be better to devote our time and attention to working out a plan which will meet all situations more or less finally, than to tinker with the question by patchwork legislation, which merely relieves symptoms and does not attack the cause of the trouble.

Very complete studies of this question have been made by various bodies in the United States. Perhaps one of the most complete is that of the American Association for Labour Legislation. New York has also conducted exhaustive enquiries, and the report of the Pennsylvania Health Insurance Commission, made in 1920, on the

operation of the British Health Insurance Act, affords illumination. These various bodies review the British Act carefully, after discussing the whole problem of sickness, its effect on the community, and the need for improvement in its handling. They find that it has led to considerable improvement, for insured and for doctors; that its cost is low, and thoroughly justified; particularly they agree that, since health insurance became a fact, a tremendous impetus has been given to preventive medicine and to methods designed to conserve and improve national health. They also agree, however, that the medical care given is insufficient, in that laboratory service, x-ray examinations, hospital treatment, etc., are not provided.

The Labour organization brings in many findings, the most important being the following:—

High rates of sickness, death, infant mortality, tuberculosis, are prevalent among the wage earners. Wage earners cannot meet the expense of proper medical care. This need is not met by existing agencies—free hospital clinics, dispensaries, visiting nurses—and in obstetrics especially they find the care woefully insufficient. Facilities for laboratory diagnosis and for consultation with specialists are demanded by the advances in modern medicine. More effective methods are needed for meeting the wage-loss due to illness. Additional efforts to prevent sickness are necessary. Factory legislation and inspection have proved to be insufficient. Commercial health insurance cannot be developed to meet these needs. Fraternal insurance, Trade Union benefits, voluntary subsidized insurance, do not meet these needs. Compulsory contributory health insurance providing medical and cash benefits is necessary. It is efficient, simple, economical, and would supply all the needs of the wage-earner. This must, however, be on a basis of complete service, if it is to be adequate.

These are the views of Labour. It might be added that the conclusions of the Pennsylvania Health Insurance Commission are practically the same.

#### THE EMPLOYERS OF LABOUR

What would be the attitude of employers of labour?

At the outset, one must expect that employers will resist any tax on industry that cannot be shewn to be fair and reasonable, or that will place them at a disadvantage in competition with manufacturers and dealers in other countries. Employers do not, as a whole, look very favourably on medical clauses in compensation acts, and are constantly complaining of the cost of medical aid.

Before the Workmen's Compensation Act came into existence, most employers were insured against accident to their employees, by commercial companies. This protected the employer, it is true, and perhaps he got off more cheaply than under the Workmen's Compensation Act. But there is no doubt in us who knew those days, that the arrangement was most unfair to the workman. Rarely did a seriously injured workman obtain compensation without litigation, the cost of which ate up most of the damages. Some men had to wait six to eighteen

months or more before they received even the small balance left. This was one of the evils that led to the introduction of the Act in the first case, and decided the form it should take, litigation being barred absolutely. It was recognized that accidents are, partly at least, due to the industry, and that accordingly the cost of them should be, to that degree, a charge on the industry. Medical aid is only one of the costs.

The same is true of sickness. Much sickness is occupational; much due to bad conditions obtaining in housing, light, ventilation, as the conditions of these exist in that industry. To that extent, therefore, the industry should pay. We cannot pretend to estimate the actual percentage that would be fair. Again, most large employers of labour contribute directly or indirectly, to the cost of illness. Employees paid by the month are rarely docked their pay, if illness is not too prolonged. Direct contributions are made to benefit funds; welfare nurses are provided; part of the doctor's fees is paid, and so on. Constant demands are made on every business man for contributions to charitable and relief organizations, not to speak of hospitals.

Again, we all pay taxes for hospitals, city relief, poor houses, and so on. These contributions are collected, not equitably from all, but in greater proportion from the more generous and public-spirited.

With a system like the Workmen's Compensation Act in existence, these costs would all be included in a definite sum, or percentage, and all would be treated alike. Everyone would know just what he had to pay, and would know that his competitors were all charged exactly the same as himself. Provided the charge on industry is calculated on a fair and tolerable basis, with due regard to its effect on industry, there could, it seems, be no just cause for complaint.

#### THE DUTY OF THE PROFESSION

What should be our duty in this matter?

To keep an open mind, being always ready to aid in any measure that will improve public health, lessen disease, and ameliorate distress due to sickness—*provided it is soundly conceived and scientifically developed.*

To keep a united body, under the leadership of our best minds. (This was not the case at first in Great Britain). The Canadian Medical Association should assume the lead, and keep control of any negotiations that may be entered into.

To know what we want, and to insist firmly on recognition and consultation by the authorities—not alone for our own sake, but for the reason that our aid will lessen the danger of ill-conceived legislation.

To enlist and retain public sympathy. We can only do this by satisfying the public that our aims are theirs, and that we are not unduly self-seeking, or, to use a plainer word, greedy. If the public sees that unfair treatment of the

doctor is bound to react unfavourably upon itself, and that all we want is a fair deal, we need not fear as to where its sympathies will lie.

To avoid by all means in our power being drawn into politics or into taking any political side. We might so easily be misled into some such course by promises or threats, and it would be a fatal step.

In studying the British system, we must not forget that conditions in Canada and Great Britain, as regards population, wages, living conditions, are hardly comparable. What might be an ideal scheme here, would be inapplicable to Great Britain, and it is quite possible that some such Act as is in force in the latter country was at the time the best, perhaps the only possible one, under all the circumstances.

In devising legislation for this country, we should not be unduly influenced by the fact that any particular system is in operation elsewhere, even if it is fairly successful. The conditions and standards of living, the density of population, the wage standards, should all be taken into account as they are found in Canada. Further, the conditions of medical practice, as they are in Canada, should be carefully guarded, and improved, not impaired. The thought of practising medicine as we sometimes hear of it being done under the panel system is disturbing to our consciences as medical men, even if these are more or less exceptional instances. We could not consent to such a mockery of medical practice, for our own sake, of course, but far more for the sake of the people we work for.

For our part, there must be an irreducible minimum of service, less than which we will not give as competent medical men. How much this is remains to be decided. Its cost is a matter of calculation and can be fairly worked out

#### THE ORIGIN OF "QUARANTINE"

The word "quarantine" is, of course, synonymous with, if not derived from, the French word "quarantaine," which merely means a group of forty—be it of days or of anything else. Its application to the detention of travellers or goods on a sea or land frontier, in the interests of public health, arose from the fact that such detention was most frequently one of forty days. Of the many uses of the word in non-medical matters little need be said here.

In its more modern application the origin of the word has been largely lost, and it has come to mean a detention of any duration, mostly on a frontier of some kind. But it has not infrequently in the past been applied also to the purely interior measure of shutting up infected persons and their families and dependants in their houses for a period of time. Defoe, in his semi-historical account of the Great Plague of

London, repeatedly uses the word in this sense, in one passage he speaks of a "demi-quarantine," as implying a detention of twenty or thirty days, and in another, of "not a quarantine of days only, but a soixantaine—not only 40 days, but 60 days or longer."

A detention of some period or other, for the purposes of observation, is one of the oldest of public health measures. The seven days' isolation, outside the camp, of persons suspected of leprosy, required by the Mosaic law, was more or less of the nature of a quarantine. At what era in history the period of forty days came to be chosen for such detention has not, it would seem, ever been clearly ascertained. It has, however, been asserted by at least one writer that a detention of forty days was first adopted during the great plague epidemic of the latter half of the sixth century, and that herein lies the true origin of the measure and of the word. The statement to this effect is very categorical, and, could it be confirmed, this early origin of a true "quarantine" would be of much interest and importance, it has seemed therefore worth while to follow the matter up and endeavour to search out the original authorities for the assertion. Unfortunately, such endeavour has not been crowned with success. The statement was first made in the following passage from a letter addressed, in 1819, to the then President of the Board of Trade and Treasurer to the Navy by Dr. A. B. Granville:

"The positive belief in contagion, and the consequent idea of seclusion as a means of preservation from it, can be traced to a much earlier epoch even than the Crusades; for we find both explicitly mentioned in the acts and edicts of some of the Oriental Emperors during the sixth century, issued with a view of preventing the propagation of the plague. It is there enjoined to those who come from a country known to be infected, to repair to a particular spot, there to be watched for the term of *forty days*, in order to ascertain whether they brought with them the seed of the disorder. Here then is the true origin of the word *quarantine*—and here we may place the date of the first enactment of quarantine laws, under the impression that the plague was contagious. So these laws, far from being of the short standing of scarcely *three* centuries, reckon a succession of more than thirteen hundred years."

In another letter, addressed by the same author in 1825 to the Right Hon. W. Huskisson, M.P., then President of the Board of Trade, the assertion is repeated, in a slightly different form. It is there stated positively that the forty days' quarantine was decreed in "an Edict of Justinian."

In neither letter is any indication given of the exact date, number, or title of the supposed edict. But in the earlier letter the following reference is given as the authority for the assertion: "*Follerius, in libello pro Custodiâ Pestis.*" A fairly diligent search, however, in the British Museum and other large libraries, lay and medi-

\* Slightly abridged from an article by F. G. Clemow, in *Brit. M. J.* 1: 122, Jan. 19, 1929.



cal, has failed to bring to light this opusculum of Follerius.

The story of the great plague epidemic of Justinian's time is, of course, fairly well known. It began in Egypt in A.D. 542, spread to Syria, Byzantium, and Europe, and did not come to an end until the close of the century. It is possible—probable, indeed—that precautions of some kind, however rudimentary, were taken to check its spread from one country to another, or from one district to another. But, if so, no positive evidence, apart from Granville's assertion, is now available. It has further to be added that very considerable doubt must attach to his statement that forty days' detention was decreed in "an Edict of Justinian"; for, in the opinion of two authoritative writers on historical questions, no such law, decree, or edict was ever promulgated by Justinian. The late Dr. J. S. Reid, professor of ancient history at Cambridge, was good enough, a few years ago, to make some further researches for me in this matter, and he wrote: "I came to the conclusion that no such edict as that which Justinian was supposed to have issued in 542 against the plague ever existed." And again, the late Professor J. B. Bury, whom Dr. Reid further consulted, wrote: "No such edict as that supposed to have been issued by Justinian is extant, nor is there any reference to anything of the kind to be found in the historical authorities known to me."

Finally, Gibbon himself remarks on the lack of measures for checking the progress of the epidemic, in the following passage:

"Those salutary precautions to which Europe is indebted for her security were unknown to the government of Justinian. No restraints were imposed on free and frequent intercourse in the Roman provinces; from Persia to France the nations were mingled and infected by wars and emigrations; and the pestilential odour

which lurks for years in a bale of cotton was imported, by the abuse of trade, into the most distant regions."

It would seem, therefore, that the assertion that "quarantine," or a true forty days' detention of persons coming from an infected country, was an invention of the time of Justinian, must, at best, be regarded as "not proven," and must remain so until the missing pamphlet of Follerius should be found and should contain some definite reference to the supposed edict enjoining that measure.

At whatever era in history the period of forty days was chosen, it is an unquestionable fact that, throughout the later Middle Ages and down to comparatively recent times, that period was most generally adopted for the detention of suspected persons. The reason for such choice has never been satisfactorily explained—unless it be, as some think, connected with the Hippocratic dictum that the fortieth day of a disease is a specially critical one.

Apart from the alleged edict or edicts, of the sixth century, the earliest known record of a forty days' quarantine would seem to be contained in the first code of the Venetian laws against plague, which are stated to have been drawn up probably as early as A.D. 1127. This, it is said, required all merchants and other travellers coming from the Levant to stay for forty days in the house of St. Lazarus before being allowed to enter the city. Other instances of such true "quarantines" abound in later centuries, and it would serve but little purpose to cite specific examples. What is of more interest is the fact that so great was the power of tradition that a true quarantine of forty days dominated the whole world of sanitarians and administrators from quite early times down to comparatively recent decades.

**ROAD TAR POISONING**—"Still bottoms," or the residues after coal tar distillation, find useful application as road construction materials, and are popularly designated "road tars." Carey P. McCord says that the chemical composition of road tar is so complex as to constitute a "hell's field" for the industrial toxicologist, who may observe pathologic states of the greatest dissimilarity among workmen exposed to this substance. One patient may exhibit a skin carcinoma, or "tar cancer"; another a fulminating pulmonary oedema; another extensive hæmorrhage from the mucous membranes, lungs or stomach, or into the skin, and another convulsive seizures. While the greater number of persons with road tar poisoning may be expected to evince signs and symptoms of the anthracene group of chemicals, other intoxicated persons may manifest the signs of poisoning from benzene and the phenols. There is no characteristic clinical picture of road tar poisoning. For medicolegal and compensation purposes, road tar poisoning must be envisaged not as a clinical entity with a

regular recurrence of similar manifestations from case to case, but as a series of little related intoxications.—*J. Am. M. Ass.* 92: 695, March 2, 1929.

**PUERPERAL MORBIDITY.**—At the meeting of the Société d'Obstétrique et de Gynécologie de Paris, held on March 11, 1929, Drs. Jeannin and Fureau reported the statistics of the obstetrical department of the Pitié Hospital during the period from July, 1925, to March, 1928. There were 12,500 deliveries with 72 maternal deaths; 328 cases of puerperal infection, with 27 deaths. Thus, rather more than one-third of all obstetrical deaths were due to puerperal infection. In regard to the proportion of the different types of puerperal infection the following figures were given. There were 556 cases of puerperal infection in the obstetrical service and the isolation department of the Pitié, with 65 deaths. Of these 65 deaths; 23 were due to periuterine infection; 11, to suppurative phlebitis of the utero-pelvic vessels; 17, to peritonitis; 14, to septicæmia.



## Editorial

### ON MEDICAL EDUCATION

AFTER reasonable endurance of remonstrance and advice the much afflicted Job announced impressively that his days were swifter than a weaver's shuttle and were spent without hope. We have no desire to detract in any way from either the peculiarity or the greatness of the distinction that was Job's. He flourished in days when earth was young, relatively. Since the time of his sojourn there have passed many centuries in which ingenious and inventive men have been busily occupied in heaping up troubles and multiplying distresses. Job no doubt made the best of his limited opportunities, but what a time he could have if his resurrection could be arranged for our time and place! Suppose, for instance, he were to be assigned the task of devising a satisfactory medical curriculum. Who is there among us venturesome enough to say that Job, so favoured, would not raise his famous plaint well beyond the  $n^{\text{th}}$  power?

Perhaps there is no better evidence that hope springs eternal in the human breast than the persistence with which men dabble in reform of the medical curriculum. For generations past leaders in the profession have devoted themselves unsparingly and undesperingly to evolving a scheme which would bring contentment, and leaders of to-day are not less determined nor are their spirits chastened. To-day, in fact, a mass formation of leaders, known to the world as the Commission on Medical Education, is engaged in an organized and systematized investigation of the curriculum's ailments. The members of this Commission have undertaken a Job's job—one requiring infinite patience and an optimism proof against all Temanites, Shuhites and Naamathites.

The Commission has now been in action for nearly two years and has issued three reports in summary of the information and opinions it has received. Much of the material submitted is familiar and rather redolent of the ineptitude and helplessness of our own past and that of our forebears. But

there is an encouraging amount of new thought and reasonable suggestion.

Manifestly, the content of the curriculum is not the only problem. If it were, the standardizer would promptly adjust our difficulties. Although we are shy about admitting it, many of us pinned faith to the standardizer for years. We had him lay down very definite rules about what a medical student should learn, not only as a medical student but also as one preparing for admission to the study of our art. Notwithstanding squabbling, courses were specified with sufficient definiteness to give an amazing sense of comfort to a number of state licensing bodies. But through a ridiculous oversight neither student nor teacher was standardized, and that—if our present suspicions are correct—explains why the scheme went agley. Such complete standardization would manifestly prove a bothersome undertaking. If we could but summon to our aid a super-ultra modern Merlin with power to wizardize all and sundry who attempt the teaching of medicine into such weird ways of thinking, speaking and acting as would bring satisfaction to the student body, and synchronously make all medical students brainful and otherwise desirable, all we should have to do would be to make Merlin work. Merlin, however, is not.

There is the further difficulty that (high authority has declared it) all men are born free and equal. Moreover—liberté, fraternité, égalité! As long as substantial majorities subscribe adhesion to these and kindred doctrines we must be submissive and apply nothing but democratic methods to the selection of students and teachers. We are debarred from the exercise of a rigid and ruthless autocracy which, if sufficiently enlightened, might develop a system which would satisfy the profession without completely alienating the public.

These things are set forth in order, most excellent reader, that something of the difficulties which beset the Committee on Medical

Education may be made plain to you. Fortunately not all of their difficulties are so patently hard of solution. This will appear

in subsequent references to the accomplishments of the Committee.

W. H. HATTIE

### NUTRITION AND THE TEETH

A CARIOUS condition of the teeth in adults has been for many years recognized as a very important and not infrequent cause of ill health and systemic infection, and not a few sufferers have, on the advice of their physicians, submitted to the removal of many natural teeth in the hope of securing relief from disabling infection. It is only of late years, however, that the attention of the profession has been directed to the fact that to secure healthy teeth with good enamel and well formed dentine, able to resist infection, measures should be taken during the early period of life, during pre-natal existence as well as during lactation and early infancy, to obtain an efficient dietary containing vitamine D, and as much sunshine as possible. Professor E. V. MacCollum, in referring to the care of the teeth in childhood, has stated that in directing our chief attention to cleanliness of the teeth we are trying to put an attractive superstructure upon a faulty foundation. Although the regular use of the toothbrush so much emphasized of late is certainly most desirable, the public as well as the profession should be impressed with the fact that the structure of the teeth—more especially the temporary, but to an important extent also, the permanent teeth—is chiefly determined in the pre-natal period and during the early months of infancy. The profession, therefore, should regard it as a duty to impress as far as possible upon the public, that while it is wise that children's teeth should be brushed regularly and inspected regularly by a dentist, it is of the greatest importance that mothers should be taught the influence of diet on the development of the children's teeth and the value of sunlight, both for themselves and for their offspring.

We have received a copy of a pamphlet\* by George Kerr Thomson, D.D.S., a dental surgeon in Halifax, in which he emphasizes the desirability of the co-operation of the medical, dental, and nursing professions in

impressing these facts upon the public. He also urges that our Canadian universities establish dental clinics in all their teaching hospitals where students can be instructed on the importance of the proper development and hygienic care of the teeth. As closely associated with the whole subject of dental hygiene, we may here call attention to a paper read by Mrs. May Mellanby,\* at a meeting of the Obstetrical Society of Edinburgh, (December 12, 1928), in which she strongly emphasizes the influence of the dietary and of sunlight on the proper calcification of the teeth. After a prolonged examination of the teeth of Englishmen from various districts of the country, Dr. Mellanby stated that she found the great majority of them, when examined in microscopic section, showed very defective development of the texture of both enamel and dentine. Careful experimental work was undertaken to detect the causes of this imperfection in structure, by experimental research on animals such as puppies, rats and rabbits and to a certain extent in developing children. These experiments clearly demonstrated that while some foods contained principles which have a specific and beneficial influence on the calcification of the teeth, other foods appear to definitely interfere with and check this calcification. The most potent principle promoting proper development is undoubtedly the vitamine D. This is met with most abundantly in animal fats, particularly in the fat of certain sea fish which obtain their food from plankton, the minute organisms of the sea, living in the sunlight. It is also found in egg yolk, whole milk, suet, and butter. The potency, however, of these substances is variable and is dependent upon the amount of sunlight or ultraviolet radiation obtainable. Vegetable oils have poor calcifying and growth-promoting properties. Lean meat, egg white, orange and lemon juice, and cereals of all kinds have little or none. The majority of cereals,

\* *Am. Dental Surgeon*, Jan. 1929.

\* *Edin. Med. J.* 35: No. 3, March.

it is to be noticed, possess some substance or factor which has a definite action contrary to that of vitamine D, interfering seriously with calcification. To prevent this influence the employment of cereals in the food of children must be counteracted by the addition to the food of substances like whole milk and cod liver oil containing a considerable amount of the vitamine D. Injurious action may also be prevented by securing exposure of the body to sunlight. In a country where there is plenty of sunlight perfect teeth are produced in children under dietetic conditions, which, in a sunless land, would result in imperfect calcification.

It is obvious that for the proper calcification of the teeth a sufficiency of calcium and phosphorus is also important. Phosphorus is fairly abundant in most diets, but the calcium content may be reduced to a very low limit by elimination from the diet of such foods as milk, egg yolk, cream and green vegetables. It is also to be remembered that no matter how high the calcium and phosphorus intake may be, with an insufficiency of vitamine D in the diet, absorption is very imperfect; the teeth will therefore be ineffectively calcified unless the influence of sunlight or ultraviolet radiation is secured. As cod liver oil contains a high percentage of the vitamine D, and is easily and cheaply attainable, a daily dose of it may have a happy influence on dental structures.

It is well known that if the dietary of an expectant mother be defective she sacrifices her own stores of calcium and phosphorus to supply the fetus. This is done without sparing, and in consequence large deficiencies are, as a rule, not met with in the structure of deciduous teeth at birth. During the

lactation period, however, especially in the case of a mother whose stores have been exhausted while carrying the child, many defects may appear in these structures; and still greater deficiencies will make their appearance after weaning, if the diet of the child contains too small quantity of food rich in vitamine D and too much cereal, while at the same time the infant suffers from a lack of sunlight or ultraviolet radiation. Such deficiencies affect not only the deciduous teeth but may also the beginnings of the permanent teeth. Experiments, however, indicate that a diet rich in vitamine D, combined with considerable exposure to sunlight in after life, may to some extent correct deficiencies which took place during the development in early life.

The microscopic examination of sections of teeth indicates that there is a definite relation between the finer structure of teeth and the amount of caries to which they are liable; although, according to Dr. Mellanby, there appears to be also a variable power of resistance to infective processes of all sorts in children, and food containing an abundance of vitamine D will improve calcification of the dentine even in the later years of adolescence and may to some extent check the progress of caries. Diets containing a large amount of cereals have always a deleterious effect on the calcification of teeth unless sufficiently counteracted by foods rich in vitamine D, the most important of which is undoubtedly cod liver oil. The most important method of improving the teeth of a nation is to add to the diet of children and expectant mothers an adequate supply of milk and cod liver oil.

A.D.B.

## NEUROSURGERY

**S**KULLS buried for thousands of years bear testimony of the early practice of trepanation, and yet it is relatively late in the era of modern medicine that surgery of the nervous system has come into being. There were certain fundamental prerequisites to its existence—the keys to cerebral localization, new methods of hæmostasis, and appropriate technique for safe craniotomy and laminectomy. To these prerequisites

the English schools of physiology and of neurology have made rich contributions through Ferrier and Sherrington, through Jackson and Gowers, and their followers. With these developments appeared a new figure in medicine in the person of Sir Victor Horsley, who may fairly be said to have created the surgery of the nervous system. Following this lead certain surgeons on the continent of Europe have entered the field,

but for the most part without exclusive specialization and perhaps without due consideration of the fundamental prerequisites.

On the fly leaf of Paget's biography of Sir Victor Horsley are found the words, "My sword I give to him that shall succeed me in my pilgrimage and my courage and skill to him that can get it." The first of this continent to reach for this sword is Harvey Cushing, and it may be fairly said that his courage and skill have carried him far ahead on the pilgrimage. A remarkable cross section of the work of Cushing's clinic is to be found in the Report of Mr. Hugh Cairns,\* of the London Hospital. He passes in review all the neurosurgical cases which entered the hospital during a year spent as assistant to Dr. Cushing. The report includes the failures with the triumphs, and adds a discriminating analysis. He states that "it is in the study of clinical syndromes that Dr. Cushing and his school have made their greatest contribution to the clinical aspects of intracranial surgery." One may wish to amend this by substituting "refinement of operative technique" for "clinical syndromes." It is true that Cushing is a discerning neurologist as well as a surgeon. But the evolution of surgical technique which

has taken place in his hands is a still more important contribution. He has demonstrated that simple craniotomy carries with it no greater risk of life than exploratory coeliotomy. The year's mortality in Cushing's clinic for intracranial surgery is given by Cairns at 12.2 per cent for 229 patients, or an operation mortality of 9.8 per cent. Many of the cases were, of course, comatose upon admission and suffering from irremediable lesions.

The surgery of the nervous system has found its chief development in American University Clinics partly, perhaps, because of a national genius for technical organization, and partly because university protection in that country makes possible undisturbed specialization. What Horsley began and American surgeons have developed is only the first step in the evolution of a specialty. The field of the sympathetic nervous system, and the relationship of the nervous system in general to a multitude of affections of other organs, open a still larger field for future invasion.

The surgery of neurology, "the science that treats of the nervous system," has passed through the time of probation. It may be said now that there is a surgery of the nervous system deserving the title "Neurosurgery."

W. PENFIELD

\*Cairns, H. A study of Intracranial Surgery. Medical Research Council. Special Report Series, No. 125.

### ON HEREDITY IN HÆMOPHILIA

SINCE Otto, of Philadelphia, first described the remarkable tendency in some male individuals in certain families to bleed more or less uncontrollably, bleeders, as he termed them, have been met with and described by several writers. There is at present, however, still some uncertainty as to whether in these bleeding families the female can develop true hæmophilia, and whether the male can transmit the disease. In 1911, Bullock and Fildes\* reviewed the subject thoroughly, and arrived at the conclusion that no adequate proof exists that the inheritance of hæmophilia has ever passed through the male line or the tendency to it been carried in a latent way by the daughter of an affected male. Recent textbooks make the statement that the disease is confined to males, and that females have an immunity.

\*Hæmophilia, Dulac & Co., 1911.

Dr. Madge Thurlow Macklin, of the University of Western Ontario, in a recent paper in the *American Journal of Medical Sciences*,\* takes issue with the absoluteness of this statement. Theoretically, she writes, hæmophilia in the female is as possible as colour blindness. Such cases, however, are very rare, and the families of bleeders which have thus far been reported have not had a sufficient number of children to prove the inability of the male element to pass on the tendency to the disease. That families have been reported in which the transmission was said to have occurred is known, but these cases have been rejected as cases of true hæmophilia, because they were all reported before the laboratory diagnosis of hæmophilia was established. Only by new laboratory methods are the several diseases in

\**Am. J. M. Sci.*, p. 218, Feb. 1928.



which there exists an abnormal tendency to bleed properly differentiated from one another.

Summing up the conditions necessary to be fulfilled before transmission through the male line can be put to the test, Dr. Macklin states them as follows. The male must live long enough to marry. He must have daughters, who in turn must marry and produce a number of sons. These conditions must be repeatedly fulfilled and not one of these grandsons inherit their maternal grandfather's defect, before it can be admitted that the male does not pass on hæmophilia to his descendants. Such conditions have not yet been reported.

McCrae and Hess\* state that in hæmophilia the platelet count is normal, but it is reduced in purpura while the coagulation time is normal in purpura but much prolonged in hæmophilia. The normal platelet count is 225,000 to 250,000 per cubic millimeter, and the normal coagulation time shows wide variations depending upon the time of the day at which the blood was drawn, the part of the body from which it was taken, the temperature of the room, and the method used in its estimation. McCrae states that cases of purpura are sometimes found in hæmophilic families. On the other hand the type of inheritance conforms to that found in hæmophilia. Dr. Macklin asks the question whether it is not possible that the laboratory diagnosis of these two conditions is not so clear cut as was first supposed, and whether we may not find cases which fit exactly into neither category; and again, is it not possible that in some families purpura is a definite sex-linked recessive defect? If all cases of hæmophilia are investigated from the la-

boratory as well as from the genealogical standpoint, the statement that hæmophilic males can transmit the disease to their daughters' sons may ultimately be verified.

From what we know of the sex-linked recessive diseases, Dr. Macklin gives the following rules as to the transmission of the disease which she states may be regarded as correct: A man afflicted with hæmophilia will have no children showing signs of this disease provided he marries a normal woman who is not a carrier. The sons of such a man will not only be normal themselves but they will not transmit the defect of their ascendants. The daughters of such a man will be outwardly normal, but they will all be carriers of the defect and liable to transmit it as an evident disease to half their sons.

Half the daughters of a woman who is a carrier of hæmophilia are apt to be carriers themselves, transmitting the defect to half their sons as an evident defect, and to half their daughters, who will be carriers in their turn. The probability is that at least half the daughters and half the sons of a woman who is a carrier will be normal. Theoretically, it is possible for a woman to show hæmophilia as a disease, provided she had a father who showed the disease, and a mother who was either a carrier or a hæmophilic herself. This condition may be impossible of realization, for the presence of a double quantity of the defect may act as a lethal factor prohibiting the development of the embryo.

All daughters of hæmophilic males are probable carriers and should not reproduce. To allow the statement to go unchallenged that it is impossible for a hæmophilic male ever to have hæmophilic descendants is likely to favour the spread of a defect which crops up now and then to snuff out the life of some child.

A.H.McC.

\* HESS, A. F., *Arch. Int. Med.* 17: 203, 1916.

## ON GOLF

GOLF as a game has rapidly attained great popularity. Golf courses are being opened in almost every community. With all its popularity, however, there is no uniform opinion on the value of golf except as a recreative sport for the public, notwithstanding the fact that medical men are frequently confronted with the question by invalids and convalescents, "Do you recom-

mend me to play? or do you consider the game too strenuous for me?" Any literature regarding the effect of golf on the circulation would appear to be of comparatively a speculative character. To place the game upon a more assured foundation from the physician's point of view, Dr. Peter Karpovich of the Department of Physiology in the International Y.M.C.A. College, of

Springfield, Mass., undertook recently a study of the effects of a modified game has on the pulse rate and pulse pressure at the request of Dr. Frederick Brush, medical director of the Burke Foundation for Convalescents. Dr. Brush is an expert golf player himself of many years' experience. The Burke Foundation has three private golf courses, one for the staff and two for the patients. The two for the patients are quite short; the one for the staff is 3,400 yards in length, with a 4 per cent slope in the fairways, and is not severely trapped. Three other courses which lie in the near neighbourhood, each of 6,000 yards in length, moderately hilly and well trapped, were made use of in the investigation for the stronger group of players. Ninety patients in the Foundation consented to place themselves under the directions of the examining physician and staff, and to undergo all the requisite tests. The results obtained appear in a pamphlet of nearly fifty pages, published by the American Physical Education Review\*. The task was evidently a difficult one. Many methods were attempted to obtain accurate results, but the results in all cases appeared variable.

Before presenting the series of tabulated results, the following statements are made regarding the game. Golf must be regarded as a very variable test of strength and endurance, in which walking is an important feature, and is associated with a considerable number of driving shots, in which the amount of energy expended varies much. The effect of this exercise manifests itself in the pulse rate and character of the breathing. The strenuousness of the game may be varied by the character of the course and its length, by the presence of hills and rough ground, and by the existence of strong contrary winds. In the less robust of the players nine holes proved the limit of safe endurance. In such persons periods of rest between the drives, and a slow rate of walking lessened the strain. In estimating the effect of the exercise on the pulse rate and pulse pressure

an examination was made immediately after the game was finished, and again 30 minutes later, and the tests were taken both in the standing and in the reclining posture. In those suffering from cardiac weakness a very moderate game developed an increased pulse rate in the great majority. In those in whom a difference of 20 beats was noticed in the pulse rate when taken in the standing as compared with its rate in the reclining posture suspicious weakness was considered to be indicated, notwithstanding that the subjective feeling of all the patients was said to be fine.

The following clinical observations were suggested. The rate of the heart beat, and the time required for it to return to normal, afforded a fair indication of the amount of energy expended as compared with the player's strength. Women appeared to expend less energy than men. The pulse pressure was found to decrease after a game. The more exhausting the game the greater was the decrease. The pulse pressure multiplied by the pulse rate appeared to serve as an index of the influence of the game on the circulation. If there was a big drop in the figure obtained it indicated that the pulse pressure was defective. A too great loss of weight following exercise, with slow return of pulse rate to normal indicated an undue amount of exertion. Sleeplessness, restlessness, and fatigue in the morning, with lessened appetite, should be regarded as an indication of impaired heart tone and overstrain. Individuals should be cautioned about playing too soon after a full meal, or taking a meal when overfatigued shortly after a game. Patients recovering from illness have lower endurance and should walk and play slowly. It is better that such should not play for more than a limited period. A certain amount of the game would appear to be beneficial for most. Cardiac patients with well developed compensation react in the same way as normal people, and for them eighteen holes in moderation did not seem to have any harmful effect.

\* November, 1928.

## THE DOCTOR AS A PATIENT

AN interesting editorial on the medical man as a patient, and his relation to the doctor who takes charge of him appears in a recent issue of the *Lancet*.<sup>\*</sup> The editorial is an abstract and a criticism of an article by Professor Theodor Brugsch† in which he discusses the extent to which the attending physician can gain the confidence of his medical patient, owing to the fact that the patient knows too much, and the all important element of confidence is practically annihilated. He has reassured too many patients himself, and has too close an acquaintance with their minds and the psychotherapeutic method in which he has dealt with them, to put any trust whatever in the method when applied to himself, and he assumes *a priori* that it will be applied to himself. The result is, says the professor, that a sick doctor is never a satisfactory patient; he makes the attempt to be his own doctor, unless the attending physician is very strong minded, and the sick doctor too ill to

criticise. Moreover, an integral part of any treatment of patients is the correction of false ideas about their condition, and when the patient happens to be a doctor, his ideas are apt to be more erroneous than they would be if he were a lay man, and they are infinitely more difficult to overrule. There is always an extreme reluctance on the part of any doctor to admit that he is ill, and the result is that he does not become a patient until he is so sick that he is the worst judge of his own condition. It is, therefore, a great mistake, on the part of a doctor who treats a colleague, to think that the sick man must, because he is a physician, be regarded as in some way different from an ordinary lay patient. Too often a cardinal blunder is made by taking his patient into consultation, and treating him as a scientific equal. The professor suggests that the only remedy for this state of affairs is that both sides should recognize it, and the doctor should forbear from treating himself, and take the valuable opportunity of enlarging his knowledge of human nature by observing his own experience as a patient.

A.D.B.

\* *The Lancet* 1: 351, Feb. 16, 1929.

† Brugsch, T., *Deut. Med. Wchnschr.* 54: 27, Jan. 4, 1929.

## Editorial Comments

## AN AERIAL MEDICAL SERVICE

A scheme for the provision of an aerial medical service in certain regions of Australia has been tried in the past year, with what seems to have been great success. (*Med. J. Aust.* Feb. 16, 1929). The scheme was evolved with the idea of providing medical services in sparsely populated parts of Queensland and northern territory, and it was hoped not only to send medical aid but on occasion to provide transportation by aeroplane to the nearest hospital.

The first volunteer for this work was Dr. K. St. Vincent Welch, who undertook to act as medical officer for the aerial service for one year. No fees were to be charged, and no private practice engaged in. The remuneration (which was not large) was to come from the Inland Mission. It was anticipated that the doctor would cover at least 20,000 miles by air during the first year.

Much experience has been gained from this first year's experiment. Dr. Welch has been at

the beck and call of the people in an immense area, and one which has been suffering from a terrible drought for the past six or seven years. Under the best conditions the townships and stations have contained only a small population, and this has dwindled yet further under the hardships mentioned, but it is expected that when the drought breaks the people will return. Occasionally, the doctor has summoned for trivial injuries and illnesses, but in most cases the need is urgent. As his movements are known to everyone in the area, his visits are the occasion for the assembling of all those who have any complaint whatever. Sometimes the patient has been taken back by aeroplane; sometimes treatment of urgent cases has been carried out at the homestead.

The experiment has been so successful that it is considered worthy of being continued and extended. It is pointed out, however, that the work is of a peculiar kind, calling for special qualities of self-reliance, courage, and physical

endurance. Extremes of heat and cold must be endured, as well as long periods of travel, both by air and by motor. Nor is the monetary reward large, so that the attraction of the work will lie in the circumstances of adventure and variety rather than in financial gain. The plan is an illustration of the degree of certainty which can be placed on aerial travel, and of the special advantages to be derived therefrom in providing medical aid in otherwise inaccessible regions.

H. E. MACDERMOT

#### ON THE VALUE OF ULTRA VIOLET LIGHT

In a recent editorial appearing under the title of *Sun Worship*<sup>1</sup> the *Lancet* calls attention to the comments made in one of the reports of the Medical Research Council on effects obtainable from ultra violet light. There is evidently much scepticism in the report as to any beneficial effect from its employment other than the production of vitamin D, or of a local inflammation of the skin. Experiments carried out by Dr. Helen Mackay, in 1925, appeared to show that the general belief in the therapeutic value of ultra violet light is unfounded. These experiments have since been confirmed in this report of an investigation by Dr. Dora Colebrook in the Willesden school area. The report is as follows:<sup>2</sup>

In order to ascertain whether ultra violet light had any general beneficial effects two series of controlled experiments were conducted on sub-normal infants and on healthy school children by Dr. Helen Mackay and Dr. Colebrook. In the first series the children were given cod liver oil to eliminate the purely nutritive factor, but no evidence could be found of any gain in weight, of lessened anemia, or of better resistance to infective disease in the group treated by the light as compared with a similar group of untreated children. The control group showed indeed rather fewer respiratory infections. In the second series, when conditions between the children with and without the treatment were equalized, the results of the light were wholly negative. It gave no gain in weight, height, observed mentality, or "spirits" and the incidence of minor ailments, such as colds, was actually rather higher among those receiving the light.

The only therapeutic uses of light radiations other than the supply of vitamin D, which have already a basis in physiology, depend upon their power of exciting a local inflammatory reaction in the skin, on which power depends Finsen's method of treating lupus. Independently of this work done in recent years, the Council has shown that light, when it has produced a much weaker inflammatory reaction in a larger area of the skin, as indicated by an after flash, does cause an increase in the power of the blood corpuscles

to dispose of bacteria; but this increased bactericidal power of the blood as shown in the laboratory has not yet been correlated with any permanent effects of value in the body, and is quickly followed by a decrease of bactericidal power. There is no present reason to believe that artificial light can do more in this way than a mustard plaster, which is infinitely cheaper. It would seem to be the duty of those who take the responsibility of prescribing light treatment not only to make sure that its known dangers are avoided, but also to find and announce evidence of benefits which it is ascertained do not come only from strong commercial advocacy on the one hand, and popular credulity on the other. Still further the *Lancet* calls attention in its editorial to the great difference in the expense, between treatment by ultra violet rays and treatment by the administration of cod liver oil; the physical method costing some fifty times more than the dietetic one.

A.D.B.

#### REFERENCES

1. *Lancet* 1: 615, March 23, 1929.
2. *Lancet* 1: 629, March 23, 1929.

#### OSLERIANA

Dr. Archibald Malloch, the Librarian of the New York Academy of Medicine, sends us the following item, to which we are pleased to give publicity. He says: "I enclose a little note on the new Nematode genus *Oslerus*, established by Hall in 1921, re which I should be obliged if it could be printed in the Bulletin or some Canadian Journal. It is interesting to see his *Filaria* of 1877 climb to the generic dignity, 'erected into a genus,' as the zoologists say—it gives him a new niche *qua* medical zoologist, along with his work on the trypanosomes."

In a letter to Dr. Malloch, Col. F. H. Garrison has given some additional information on this interesting topic.

"In 1877, Osler described a verminous bronchitis in dogs, due to a nematode worm, discovered and described by him as *strongylus canis bronchialis* and subsequently named *Filaria osleri* by Cobbold (1879). In 1921, M. C. Hall erected this into an ovoviviparous nematode genus *Oslerus*, with Osler's original worm as the generic type (*Oslerus osleri*). In the same year, L. Travassos added two new Brazilian species, viz., *O. barreto* and *O. gordius*, found in the lungs of South American lemurs. In 1928, Dr. Hans Vogel adds two more species, viz., *O. cynopithecus* found in the body of an imported monkey (*Cynopithecus maurus*) in the Hamburg Institute of Tropical Diseases, and *O. felis*, found in the bronchi of a South American ocelot. A full account of the whole matter, with the pathological changes produced by infestation and refer-



ences, will be found in Dr. Vogel's interesting paper.—*Centralbl. f. Bakteriologie*. 119: 430-444, 1928."

(Signed) F. H. GARRISON

#### THE INCIDENCE OF INFLUENZA

The latest scourge of influenza has, like former ones, passed systematically and apparently inevitably from one country to another, following the established lines of traffic.

It is difficult, in attempting to appraise the degree of prevalence of this disease, to arrive at accurate conclusions, and this for various reasons. Many persons are able to continue at their work if they are suffering from only a mild infection. Such cases would, naturally, not be included in statistical statements, and there would be many other cases not reported as well. Errors in diagnosis would also make for uncertainty in the results. We welcome, therefore, a statement from Dr. Frank G. Pedley, of the Industrial Clinic of the Montreal General Hospital, who, without claiming absolute accuracy for his figures, gives us information for one of the months in which influenza was very active that is more nearly exact than any that have reached us. He says:—

"In view of the conflicting reports published in the press and elsewhere of the incidence of influ-

enza during the month of December, I thought it might be of interest to your readers to know the exact incidence in a fairly large industrial population in Montreal. These figures are fairly accurate and are, of course, much higher than are published elsewhere. The following table shows the number of absences, the percentage of employees affected, the number of days lost and the percentage of working time lost from influenza (*la grippe*) and upper respiratory diseases during the month of December 1928:

Plant	Number of Absences	Percentage of employees	Number of days lost	Percentage of working time
A	54	18	199	2.8
B	33	12	145	2.3
C	14	22	40	2.4
D	71	15	274	2.2
E	350	25	unknown	
F	52	17	178	2.3

It might be emphasized that this table represents lost time cases. There were probably many milder cases which continued to work. In the great influenza epidemic of 1918 it has been estimated that approximately one-third of the population was affected. The epidemic which is just now subsiding was, of course, milder in character, but apparently as widespread as that of 1918". These figures apply to a total of 3000 employees.

A.G.N.

## Men and Books

### ANÆSTHESIA IN EARLY DAYS

By W. H. HATTIE, M.D.

*Halifax, N.S.*

About eighty years ago, Oliver Wendell Holmes enriched the vocabulary of many a nation by the introduction of the words "anæsthesia" and "anæsthetic." It is, of course, common knowledge that such words were necessitated by the general adoption of ether to abolish the pain of surgical operations. Perhaps it is because of the epochal significance of the advent of ether and chloroform as pain-preventatives, coupled with the coining of the new words, that so many are of the belief that the history of these drugs comprises the history of anæsthetics. This does not seem strange in comparison with the almost unbelievable forgetfulness, during several centuries, of the practice of inducing narcosis before surgical operations which had been in use from very early times. This forgetfulness on the part of the medical profession is all the more remarkable in view of references to the practice in the current literatures of several countries.

Shakespeare, whose plays abound in references to mediæval and ancient beliefs and practices, tells of the potion prepared by Friar Lawrence which was to be principal in the strategy intended to bring fair Juliet's love affair to an entirely satisfactory conclusion.

"Take thou this vial, being then in bed,  
And this distilled liquor drink thou off;  
When presently through all thy veins shall run  
A cold and drowsy humour, for no pulse  
Shall keep his native progress, but surcease;  
No warmth, no breath, shall testify thou livest;  
The roses in thy lips and cheeks shall fade  
To pale ashes, thy eyes' windows fall  
Like death when he shuts up the day of life;  
Each part, deprived of supple government,  
Shall, stiff and stark and cold, appear like death;  
And in this borrow'd likeness of shrunk death  
Thou shalt continue two and forty hours,  
And then awake as from a pleasant sleep."

The potion behaved exactly as was expected of it. It was due to man's blundering that "never was a story of more woe, than this of Juliet and her Romeo." Of course, the narcosis described was not desired for surgical reasons, but the quotation shows that in Shakespeare's time the belief in sleep-producing potions had

not faded out of the lay mind. A more direct reference to the then abandoned practice of inducing anæsthesia prior to operation is continued in the much quoted lines of Middleton's:

"I'll imitate the pities of old surgeons  
To this lost limb, who, ere they show their art,  
Cast one asleep, then cut the diseased part."

No record has been found of the time and place of origin of the practice. Perhaps the ancient method of producing numbness by pressure may have preceded the use of drugs. The Chinese claim that "Mago" has been used as an anæsthetic in China for thousands of years. It is believed by some writers that Europeans adopted methods of inducing narcosis which had originated in India. Evidently the practice was quite widespread at an early period.

The credit of being the first to write systematically on botany, as applied to medicine, is given to Dioscorides, who flourished in the first century of the Christian era. He outdid Theophrastus, the "Father of Botany," in the number of plants he described, and he wrote so exhaustively that his writings were accepted as authoritative for sixteen centuries. As a surgeon in the army of Nero he doubtless gained much surgical experience. Dioscorides used mandragora wine, not only for insomnia but also for pain, and in surgical operations. Sometimes he prescribed it as a potion; at other times as a clyster; at other times as an inhalant.

The sleeping potion of Dioscorides seemingly met with the approval of many practitioners during the earlier centuries of our era. Among those who refer to it in their writings are Isidore of Seville, a good bishop who is reputed to have been the most learned man of his time (the end of the sixth and the beginning of the seventh centuries), and Avicenna, the convivial favourite physician of more than one caliph, writer of many books including the noted Canon, and the "Father of Geology," whose too early death in 1036 is attributed to dissipation.

Seemingly, the Salernitans were a bit chary about using the potion, which they regarded as not being free from danger, and gave preference to an inhalant. The formula of Nicholas of Salerno, who lived, probably, in the eleventh century, had the general approval of such worthies as Hugh of Lucca and his son and disciple Theoderic, Gilbertus Anglicus, and others. Occasionally, modifications of this formula were advocated.

Guy de Chauliac (c. 1300-1368), called by some the "Father of modern surgery," in describing the methods followed by surgeons of his time in certain major operations, wrote:

"Some surgeons prescribe medicaments, such as opium, the juice of morel, hyoscyamus, mandrake, ivy, hemlock, lettuce, which send the patient to sleep, so that the incision may not be felt. A new sponge is soaked in the juice of these and left to dry in the sun; when they have need of it they put this sponge in warm water, and then hold it under the nostrils of the patient until he goes to sleep. Then they perform the operation."

Hugh of Lucca, one of those favourites of fortune whose fame has come down to us, though he wrote little, is said to have reached the age of nearly one hundred, when (about 1260) death cut short his career. He was appointed city physician of Bologna in 1214, on the understanding that he would treat the poor for all conditions, and others for minor conditions, free of charge. For difficult cases he might demand a load of wood from a well-to-do patient, or a load of hay from a wealthy patient.

As late as 1460, Pfolspeundt, a "wound surgeon" of the Bavarian army, used the narcotic inhalation recommended by Nicholas of Salerno. Then followed a long period throughout which medical literature remained strangely silent concerning relief from the agonies caused by the use of surgical instruments. Seemingly, even Paré knew of neither the potion of Dioscorides nor the soporific sponge of the Salernitans, and a long line of successors were equally ignorant. In 1800, after experimenting upon himself, Sir Humphrey Davy made the suggestion that nitrous oxide might be used advantageously in surgical work, but for nearly half a century little heed was paid to the suggestion. Then came ether and chloroform, each to meet with almost immediate acceptance by leading surgeons the world over. On this side of the water, the tragic ending of an unseemly quarrel over the question of priority in the use of ether contrasts with the amusing way in which Simpson discomfited the ecclesiastics who denounced the use of chloroform in labour—on the ground that it was ordained that woman must bring forth children in sorrow. Simpson reminded his critics that, on the occasion of the first recorded surgical operation, the Lord caused a deep sleep to fall upon Adam before removing the rib which was to become Eve!

#### IMPORTANT ACCESSIONS TO THE LIBRARY OF THE ACADEMY OF MEDICINE, TORONTO, IN 1928\*

The Library Committee, with its associated Historical Committee, wishes to draw the attention of the Fellows to some of the gifts and purchases added to the library during the past year. All of these have been noted in the monthly calendars but many have escaped attention. It has been thought that some notice regarding a few of the outstanding accessions may lend an added interest.

Some time ago we received from Dr. J. S. Wardlaw, of Galt, Ontario, ten volumes† which

\*A Report of the Library and Historical Committees read before the Academy, Jan. 8, 1929, on Library and Historical Night.

†These volumes are: Bell, B., *System of Surgery*, 5 v. Charleton, R., *Three tracts on Bath water*, 1774; Cullen, W., *First Lines on the Practice of Physic*, 1802; Trotter, T., *Observations on the Scurvy*, 1792; Unwins, *Modern Medicine*, 1808; *A system of Anatomy and Physiology*, 1787.

had been in the library of Sir William Beatty (1770-1842). These have interesting associations for William Beatty was surgeon to the *Victory* in the Battle of Trafalgar. Later he was physician to the fleet under the command of the Earl of St. Vincent. He saw service in all climes. He received the degree of M.D. (St. Andrew's, 1817); was a Licentiate of the College of Physicians, 1817; Fellow of the Royal Society, 1818; and was knighted in 1831. We have been fortunate in securing a copy of Sir William's monograph, entitled "Authentic narrative of the death of Lord Nelson with the circumstances preceding, attending, and subsequent to that event; the professional report of his Lordship's wound, and several interesting anecdotes." This volume was published in London in 1807.

In medical biology several important additions have been made. As a companion volume to our valuable Dioscorides, "De medicinali materia, libri sex," 1543, we have been able to secure the rare Venice edition (1565) of Pietro Andrea (1501-77), Mattioli, "Commentarii in sex libros Pedacii Dioscoridis Anazarbei De Medica Materia," a very large folio with woodcuts and text describing some 600 plants, to which Mattioli has added between 200 and 300 new species from southern Europe. The volume is in excellent condition of preservation, and the woodcuts of plants and animals are choice examples of the work of the illustrators of this early period of the art of printing.

Dioscorides is recognized as the originator of materia medica. He was a Greek army surgeon in the service of Nero (54-68 A.D.). He was the first to write on medical botany as an applied science. The opportunity offered by his travels with the army was extensively used to increase his knowledge of plants and their properties. The descriptions of plants given by him were followed by physicians and men of science for sixteen centuries.

Leonhard Fuchs (1501-66), one of the German "Fathers of Botany," published his "De Historia Stirpium" in 1542. It is now an extremely rare and valuable work. We have been presented with a small copy with beautiful illustrations, printed seven years later, 1549, a welcome addition to our volumes on medical botany. As a follower of Luther, Fuchs had many uncomfortable days, but held the Chair of Medicine at Tübingen for thirty-one years. He employed artists to figure the plants which he described, that he might make the medicinal plants better known and understood.

A copy of the *Materia Medica* of Linnæus (1707-78) marks the transition from ancient to modern. He gave the most concise descriptions of plants and animals in all natural history, and originated the binomial nomenclature now used in science, introducing the generic and specific names. His graduation thesis in medicine was on intermittent fever. It is said that he studied medicine to secure his wife, as the young lady's father declined to consent to a match unless he

became a doctor. He practised medicine with success at Stockholm, became physician to the Admiralty, obtained the professorship of Anatomy which he exchanged the following year with the professor of Botany. This was, however, essentially a medical chair. Later, he became rector of the University (Upsala).

Among the portraits in the Osler Collection in the Academy is one of Guillaume Rondelet, or Rondeletius (1507-66), bearing a note signed "W.O.", stating he was the Doctor Rondibilis of Rabelais. Rabelais introduces him in his third book of Gargantua and Pantagruel (Chaps. xxix-xxxiii), in company with a theologian and a lawyer, speaking of them as "all of them endowed for the respective discharge and management of each his own vocation and calling (wherein without all doubt or controversy they are the paragons of the land, and surpass all others)."

Rondelet was the greatest ichthyologist of his time. His figures are woodcuts and more correct in the characteristic details than any previously published. His work "De piscibus marinis, in quibus veræ piscium effigies expressæ sunt" was published at Lyons in 1554. The figures in this volume are truly surprising for the time in which he lived. In reference to the fishes of the Mediterranean this work has been considered indispensable; for the ichthyologist it is one of the most important works ever published. The copy presented to us is in excellent preservation. Of delicate constitution and considered by his father unable to make his way in active life, most of the family estate was left to a brother, Rondelet being given merely sufficient to admit him to a convent. But having no affection for a monastic life he began his studies at the age of eighteen and finished in Paris with the help of his brother. He began practice as a country doctor, but meeting with no success set up a grammar school. This failing, he again went to Paris to study Greek and aided himself by tutoring. He finally returned to Montpellier, received his medical degree at the age of thirty, achieved success in practice and became Professor of Medicine in 1545. As physician to the Cardinal of Tournon, he travelled extensively, which gave him opportunity to increase his knowledge of natural history. He died on a journey to Toulouse, the result of a surfeit of figs.

The surgeons here to-night will be interested in a little volume with splendid illustrations—Mr. Cheselden's work "On the High Operation for the Stone," 1723. Stories are told of his performance of lithotomy in fifty-four seconds, his dexterity exciting the wonder of his contemporaries. He was a student of Cowper, whose work on anatomy is one of our treasures, in spite of the fact that most of the plates are those of Bidloo, to which Cowper added only the text. Because John Douglas charged Cheselden with plagiarism in his high operation, Cheselden dropped this procedure and developed the lateral operation in 1727. He introduced a new opera-



tion for artificial pupil, wrote an anatomy, and showed his versatility in patronizing boxing, prepared the plans for Old Putney Bridge, and the Surgeons' Hall in Old Bailey, and assisted in preparing the sketches of bones for an atlas on osteographia.

Among the collected works (*Opera Omnia*) are those of Hippocrates, Rufus of Ephesus, Aëtius of Amida, Pierre Franco, and Fallopius.

We have several copies of the Hippocratic writings, but have now on our shelves the ten volume translation (1839-61) of Maximilian Paul Emile Littré (1801-81), the greatest historical investigator among the French of the last century, academicien and senator, the author of the great four-volume "*Dictionnaire de la langue française*."

Rufus of Ephesus (about the beginning of the second century, A.D.) was a great eclectic and acquired reputation as an anatomist, describing the crystalline lens, the membranes of the eye, the optic chiasm, and the oviduct of the sheep. He taught that nerves originated from the brain. He added much to the *materia medica*, including colocynth, and was an alienist of repute. There was a Paris text of 1554; ours is that of Daremberg.

Aëtius, of Amida (now Diarbekir), lived in the sixth century (502-575), and studied at the University of Alexandria. He left sixteen books on medical science, a compilation in which he preserved for us writings of his predecessors which otherwise would have been lost. The Greek text of only eight of the books has been published, but a Latin translation of the sixteen appeared in Venice, 1534, (Garrison), and Basle, 1533-35, (Baas). Our copy is a Tetrabiblion of Basle of 1544. His accounts of elephantiasis, ileus, pneumonia, pleurisy, and epilepsy are more accurate than those of Aretæus. In surgery he describes tonsillectomy, urethrotomy, and treatment of hæmorrhoids. And charms are not neglected. To remove a bone stuck in the throat, the patient should swallow a piece of raw meat to which a pack thread is attached, and then draw it out again, or the physician should grasp him by the throat and cry in a loud voice "As Jesus Christ drew Lazarus from the grave and Jonah from the whale, thus Blasius the martyr and servant of God commands, bone come up or go down."

Pierre Franco, a Huguenot driven by the Waldensian massacres into Switzerland, living at Lausanne and at Berne, did even more than Paré, perhaps, to put the operations for hernia, stone, and cataract upon a definite basis, and was the first (1556) to perform suprapubic cystotomy.

The *Opera Omnia* of Fallopius is of perhaps the greatest interest to us to-night because of our celebration of the tercentenary of Harvey's "De motu." Fallopius and Colombo were pupils of Vesalius at Padua, as Vesalius and Servetus were fellow students under Jacobus Sylvius at Paris. Fallopius succeeded Vesalius at Padua,

and was in turn succeeded by his own pupil Fabricius, who with Casserius lectured and demonstrated to Harvey when at Padua. He discovered and described the chorda tympani, the semicircular canals, the petrosal and sphenoidal sinuses, the ovaries, Fallopian tubes (Rufus had described them in the sheep), the round ligament, numerous nerves, and he named the vagina and placenta, and described numerous muscles. He was a practical surgeon, wrote on mineral springs, recommended condoms of linen, wrote on syphilis and other subjects. It is said he did not shrink from a gift of some convicts, whom he then poisoned, and when his first experiment failed tried it again with better success—an age of real zeal for investigation of the human body.

Our library continues to grow in size, in value, and, we hope, in usefulness to the Fellows. While keeping up with modern publications in books and journals new material is being added—for example, complete files of the Westminster Hospital Reports, and the Transactions of the Medico-Legal Society. A new loose-leaf surgery is now on the shelves and the *Encyclopædia Britannica* has been purchased through the sale of duplicates. We hope within the next year to add the volumes of the Dictionary of National Biography to our reference works.

The continued interest of the Fellows in the growth of our collections is earnestly sought. We hope the interest will extend to the offer of special gifts or of funds for additions which we cannot acquire through our necessarily limited annual appropriation for books, journals and binding.

J. H. ELLIOTT.

#### REPORT OF THE HISTORICAL COMMITTEE

The Historical Committee of the Academy of Medicine and of the Ontario Medical Association makes it a business to write to the executors of the estates of deceased physicians asking them to put aside anything which might be of interest to physicians at large. It is not often that much is acquired, for it seems to be the habit to throw out the papers and belongings which do not bear directly upon the bank account. Practically all the records of the old Toronto School of Medicine seem to have disappeared, for instance, and we depend very much on attendance cards and calendars for details of this school. We insist in our inquiries that such things are of value and occasionally are rewarded by acquiring many interesting things.

Amongst the effects of the late Dr. Duncan, of Chatham, were found a complete set of his attendance cards for Toronto, cards which admitted him to the clinic of Professor Billroth, as well as a notification that if he attends at operations he must appear in freshly donned clothes, and must guarantee not to be in the pathological or anatomical laboratories immediately preceding the operation. Other things of exceptional interest amongst his findings are cards which show that he



attended courses given by Sir William Osler when at McGill, and a type of small note book which is referred to on pages 173-4 in Cushing's "Life of Osler" in these words. "We worked together through Gee's Auscultation and Percussion, and in the ward visit, physical-diagnosis exercises, and in a clinical microscopy class the greater part of the morning was spent". I came

across the other day the clinical note-book I had prepared for the students, with a motto from Froude, "The knowledge which a man can use is the only real knowledge, the only knowledge which has life and growth in it, and converts itself into practical power. The rest hangs like dust about the brain, or dries like raindrops off the stones."

N. B. GWYN

## Association Notes

### The Annual Meeting, Montreal

June 17, 18, 19, 20 and 21.

#### Have You Secured Your Hotel Reservations?

For list and rates see January issue of *Journal* (page 72) or apply to Association office—3640 University St., Montreal.

#### TRANSPORTATION ARRANGEMENTS AT REDUCED FARE

The Identification Certificate Plan is explained in the February issue (page 197) for Eastern Territory, and in the April issue (page 421) for Western Territory.

#### INFORMATION FOR MOTORISTS

See March issue (page 309) for list of *garages* convenient to and serving the hotels.

For information *re routes, maps and road conditions* apply direct to Montreal Tourist Bureau, New Birks Bldg., Montreal.

#### GOLF TOURNAMENT—"ONTARIO CUP"

The tournament will be played over the *Dixie Links* of the Royal Montreal Golf Club on Tuesday, June 18.

Entrants should apply to Dr. S. Hanford McKee, 1528 Crescent Street, Montreal.

#### CALENDAR OF THE WEEK

##### Headquarters—Windsor Hotel

##### Monday, June 17

- 9.00 a.m. Council meeting—Ladies Ordinary.
- 12.30 p.m. Council luncheon—Guests of the President-Elect, Prince of Wales Salon.
- 2.00 p.m. Council meeting—Ladies Ordinary.
- 7.00 p.m. Council dinner—Guests of Montreal Medico-Chirurgical Society, Prince of Wales Salon.

##### Tuesday, June 18

- 9.00 a.m. Council meeting—Ladies Ordinary.
- Section of Public Health—Windsor Hall.
- Section of Public Health (executive)—Room 129.
- 12.30 p.m. Council luncheon—Guests of La Société Médicale, Prince of Wales Salon.
- 2.00 p.m. Council—Official inspection of commercial exhibits.

- 2.30 p.m. Council meeting—Ladies Ordinary.
- 2.00 p.m. Section of Public Health—Windsor Hall.
- 7.00 p.m. Council dinner—Guests of Province of Quebec Medical Association—Prince of Wales Salon.
- 9.00 p.m. Annual meeting of the Province of Quebec Medical Association—Windsor Hall.

##### Wednesday, June 19

- 9.00 a.m. Section, Public Health—Ladies Ordinary.
- Section, Mental Diseases—Prince of Wales Salon.
- Section, Urology—Room 129.
- Section, Radiology and Physiotherapy—Room 135.
- Section, Pædiatrics—Windsor Hall.
- 12.30 p.m. Section, Urology—luncheon—Salons A and B.
- 2.00 p.m. General Session (English)—Windsor Hall.
- Séance Plénière (Section Française)—Salon du Prince de Galles.
- 4.30 p.m. Garden Party.
- 8.00 p.m. Annual dinner and dance—Windsor Hall.

**Thursday, June 20**

- 9.00 a.m. Section, Public Health—Ladies Ordinary.  
Section, Eye, Ear, Nose and Throat—Prince of Wales Salon.  
Section, Public Health, Laboratory Workers—Room 129.  
Section, Radiology and Physiotherapy—Room 135.  
Section, Medicine—Windsor Hall.
- 12.30 p.m. Federation of Medical Women of Canada—luncheon, Salons A and B.
- 2.00 p.m. Section, Public Health—Ladies Ordinary.  
General Session (English)—Windsor Hall.  
Séance Plénière (Section Française)—Prince of Wales Salon.  
British Society of Dermatology (Canadian Branch)—Room 129.
- 4.30 p.m. Canadian Medical Protective Association—Windsor Hall.  
Garden Party, McGill University Campus.
- 6.30 p.m. Dinner meeting, Province of Quebec Industrial Medicine Association—Prince of Wales Salon.
- 9.00 p.m. Osler Memorial Address—Windsor Hall.

**Friday, June 21**

- 9.00 a.m. Section, Public Health—Ladies Ordinary.  
Section, Gynaecology and Obstetrics—Prince of Wales Salon.  
Section, Radiology and Physiotherapy—Room 135.  
Section, Surgery—Windsor Hall.
- 12.30 p.m. Section, Historical Medicine—luncheon—Salons A and B.
- 2.00 p.m. General Session (English)—Windsor Hall.  
Séance Plénière (Section Française)—Salon du Prince de Galles.  
Section, Public Health—Ladies Ordinary.  
Section, Anaesthesia—Room 129.
- 4.30 p.m. Garden Party.
- 7.30 p.m. Alumni Dinners—Diners des Gradués.

For details consult programs of General Sessions, of Sections and of Hospitals.

**SCIENTIFIC PROGRAM**

(Preliminary)

**GENERAL SESSIONS (ENGLISH)****LOCAL COMMITTEE**

*Chairman:* Dr. J. C. Meakins  
*Secretary:* Dr. J. Fraser  
*Members:* Drs. H. M. Little; Wilder Penfield; H. B. Cushing; D. S. Lewis; C. P. Howard; E. M. Eberts.

**PROGRAM****Wednesday, June 19****Windsor Hall**

- Dr. Duncan Graham, Toronto.**  
2.00—"The Differential Diagnosis of Clinical Conditions accompanied by Jaundice."
- Sir St. Clair Thomson, London, England.**  
2.20—"Intrinsic Cancer of the Larynx. Lasting Cure in Eighty per cent of Cases by Laryngo-Fissure."
- Dr. P. F. Armand-DeLille, Paris.**  
2.50—"Diagnosis of the Early Stages of Pulmonary Tuberculosis in Infancy and Childhood."
- Dr. Alex. Gibson, Winnipeg.**  
3.20—"Nerve Lesions in Civil Practice."
- Dr. Wade Wright, New York.**  
3.40—"Industrial Hygiene."

**Thursday, June 20****Windsor Hall**

- Prof. R. L. Stehle, Montreal.**  
2.00—"Acidosis in Anaesthesia."
- Prof. G. B. Roatta, Florence, Italy.**  
2.20—"Child Welfare, the Basis of Public Health."
- Mr. J. A. Cairns-Forsyth, London, England.**  
2.50—"The Surgery of the Biliary Tract and Pancreas."
- Dr. C. F. Martin, Montreal.**  
3.20—"Periodic Health Examinations." (Moving Picture.)

- Dr. Gustave Archambault, and Dr. Albéric Marin, Montreal**  
3.40—"The Modern Conception of Dermatology and Syphilology."

**Friday, June 21****Windsor Hall**

- Dr. H. H. Murphy, Kamloops, B.C.**  
2.00—"The Duty of the Doctor to the Hospital."
- Prof. E. Rist, Paris, France.**  
2.20—"The Sudden Onset of Pulmonary Tuberculosis and its Lobar Localizations."
- Prof. L. Ambard, Strasbourg, France.**  
2.50—"Significance of Hyperglycæmia in Diabetes."
- Dr. H. R. Clouston, Huntingdon, Que.**  
3.20—"An Hereditary Ectodermal Dystrophy."

An analysis, through six generations, of a condition which is extremely rare in the literature but relatively common in the Montreal area. It is easily recognized. It affects the hair, nails, epidermis, sebaceous glands, nervous system, and there is interesting evidence of involvement of the adrenal medulla and the pituitary. It follows the Mendelian law of hybrids.

- Demonstration by Dr. L. E. Pariseau, Montreal.**  
3.40—"The Harvey Film",

**SEANCES PLENIERES—  
SECTION FRANCAISE****COMITÉ LOCAL**

- Président:* Dr. Téléphore Parizeau.  
*Secrétaire:* Dr. Gustave Archambault.  
*Membres:* Drs. J. E. Dubé; Albert LeSage; B. G. Bourgeois; P. Z. Rhéaume.

## PROGRAMME

Mercredi, 19 juin

Hotel Windsor  
Salon du Prince de Galles

Président: Dr. J. Edmond Dubé

2.00—

Dr. C. F. Martin, Montreal.

*"L'examen médical périodique" (avec cinéma).  
(Periodic Health Examination—Illustrated by  
moving picture).*

Prof. L. Ambard, Strasbourg.

*"Signification de l'hyperglycémie dans le diabète."  
(Significance of Hyperglycemia in Diabetes).*

Drs. Roméo Boucher et R. Archambault, Montreal.

*"Répercussions gastriques de l'abdomen droit."  
(Gastric Manifestations in Certain Pathological  
Conditions of the Right Abdomen).*

J. A. Cairns Forsyth, F.R.C.S., Londres, Angleterre.

*"Chirurgie des voies biliaires et du pancréas."  
(Surgery of the Biliary Tract and Pancreas).*

Présentation par le Dr. Léo Pariseau.

*"Film Harvey."*

Jeudi, 20 juin

Hotel Windsor  
Salon du Prince de Galles

Président: Dr. B. G. Bourgeois

2.00—

Prof. E. Rist, Paris.

*"Le début lobaire de la tuberculose pulmonaire."  
(The Sudden Onset of Pulmonary Tuberculosis and  
its Lobar Localizations).*

Dr. J. E. Gendreau, Montreal.

*"Le traitement du cancer par les radiations à l'heure  
actuelle."  
(The Present Status of Cancer Therapy by Radia-  
tion).*

Drs. G. Archambault et Albéric Marin, Montreal.

*"Conception moderne en dermatologie et syphili-  
graphie."  
(The Modern Conception in Dermatology and  
Syphilology).*

Sir St. Clair Thomson, Londres, Angleterre.

*"Cancer intrinsèque du larynx; Cure permanente  
par laryngo-fissure dans quatre-vingt per cent  
des cas."  
(Intrinsic Cancer of the Larynx; Lasting Cure in  
Eighty per cent of Cases by Laryngo-fissure).*

Vendredi, 21 juin

Hotel Windsor  
Salon du Prince de Galles

Président: Dr. P. Z. Rhéaume

2.00—

Prof. G. B. Roatta, Florence, Italy.

*"Le bien-être de l'enfance à la base de l'hygiène  
publique."  
(Child Welfare, the Basis of Public Health).*

Dr. J. A. Baudouin, Montreal.

*"La vaccination antituberculeuse à l'Ecole Sociale  
d'Hygiène Appliquée."  
(B.C.G. Vaccine at the Social School of Hygiene).*

Dr. P. F. Armand-deLille, Paris.

*"Diagnostic au début de la tuberculose pulmonaire  
chez le nourrisson et l'enfant."  
(Diagnosis of the Early Stages of Pulmonary Tu-  
berculosis in Infancy and Childhood).*

Dr. J. Oscar Mercier, fils.

*"Diagnostic précoce des maladies de l'appareil  
urinaire en clientèle."  
(Early Diagnosis of Urinary Diseases in Daily  
Practice).*

## OSLER COMMEMORATION

Chairman Osler Committee: Dr. J. H. Mullin, Hamilton.

## LOCAL COMMITTEE

Chairman: Dr. C. P. Howard

Secretary: Dr. E. S. Mills

Members: Drs. M. E. Abbott; D. A. Hingston; W.  
L. Delaney; J. G. Brown; H. P.  
Wright.

Thursday, June 20 (Evening)

Windsor Hotel

## PROGRAM

- 9.00 p.m.—1. Introductory Remarks—The President  
Canadian Medical Association.
2. The Osler Library—Dr. Wm. Francis, Li-  
brarian.
3. Oration—Prepared by the late Francis J.  
Shepherd. Presented by Dr. H. A. Lafleur.

## SECTION OF ANÆSTHESIA

Chairman: Dr. Samuel Johnston, Toronto.

Secretary: Dr. William Delfries, Toronto.

## LOCAL COMMITTEE

Chairman: Dr. Wesley Bourne.

Secretary: Dr. Charles LaRocque.

Members: Drs. Harold Griffith, W. B. Howell, J. C.  
Racicot, C. C. Stewart.

WEDNESDAY, THURSDAY AND FRIDAY FORENOONS

Practical demonstrations at the hospitals of different  
methods of administration of various anæsthetic agents.

Thursday, June 20

Windsor Hall

2.00—

Prof. R. L. Stehle.

*"The Acidosis of Anæsthesia."*

Friday, June 21

Windsor Hotel, Room 129

- 2.00—Business meeting—Election of Chairman and Sec-  
retary for next meeting of Section.

Drs. James Ross and C. C. Stewart.

*"Post-operative Pulmonary Complications."*Discussion opened by Drs. Romeo Pepin and  
F. A. C. Scrimger.

Prof. V. E. Henderson and (by invitation) G. H. W. Lucas.  
*"A new Anæsthetic Gas."*

Discussion opened by Dr. Charles La-Rocque.

Drs. C. R. Brow and C. M. H. Long.  
*"The Bio-chemical Changes in the Heart under Anæsthesia."*

Discussion opened by Professor J. B. Collip.

### SECTION OF EYE, EAR, NOSE AND THROAT

Chairman: Dr. R. E. Mathers, Halifax.

Secretary: Dr. L. deV. Chipman, Saint John.

#### LOCAL COMMITTEE

Chairman: Dr. A. Lassalle.

Secretary: Dr. G. Badeaux.

Members: Drs. Geo. Mathewson, George Hodge, W. G. M. Byers, J. T. Rogers, Bramley Moore, Jules Brault, P. Bousquet, D. Bussière.

#### PROGRAMME

Wednesday, June 19

Hotel-Dieu

Clinical and Operative

9.00—

Dr. P. Bousquet.  
*(Demonstration of Technique in Fronto-ethmoido-maxillary Sinusitis).*

Dr. G. Badeaux.  
*"La diathermie dans les affections du nez et du pharynx."*  
*(Diathermy in Nose and Throat Diseases).*

Dr. G. Bédard.  
*"Epithelioma de la paupière: operation et autoplastie."* Presentation du malade.  
*(Epithelioma of the Eyelid; Operation and Autoplasty. Presentation of Case).*

Dr. A. Lassalle.  
*"Injections de lipiodol dans les voies lacrymales."* Radiographies.  
*(Injections of Lipiodol in the Lachrymal Duct. Radiograms).*

### Montreal General Hospital

9.00—

Dr. A. E. Lundon.  
*"Maxillary Sinusitis: Radical Operation: Local Anæsthesia."*

Dr. H. Baby.  
*"Zinc Ionization in Chronic Suppurative Otitis Media—Technique and Results."*

Dr. A. O. Freedman.  
*"Tonsillectomy under Local Anæsthesia."*

Drs. G. Hodge and V. P. Heney.  
*"Bronchoscopic Technique: Demonstration of Cases."*

Drs. G. Mathewson, H. McKee, A. Bramley-Moore, S. G. Ramsay, S. O. McMurtry.  
*"A Series of Cases of Eye Diseases and Abnormalities."*

### Hôpital Notre Dame

9.00—

Dr. J. N. Roy.  
*"Operation de la Dacryo-rhinostomie."*  
*(Dacryo-rhinostomy Operation).*

Dr. J. N. Roy.  
*"Chirurgie faciale."*  
*(Plastic Facial Surgery. Presentation of Cases).*

### Royal Victoria Hospital

9.00—

Dr. G. E. Tremble.  
*"Tonsillectomy under Local Anæsthesia."*

Dr. D. Ballon.  
*"Lipiodol Injection in Tracheo-bronchial Treatment."*

Dr. W. G. McNally.  
*"Demonstration of the Audiometer, with Labyrinth Test."*

Dr. K. O. Hutchison.  
*"Tonsillectomy."*

Dr. W. C. M. Byers and staff will present cases of clinical interest, with slitlamp demonstrations as a special feature. Operations will be staged on the same days. and Dr. Byers hopes to have cases of cataract suitable for intracapsular extraction. A large exhibit of pathological specimens will be shown in the departmental laboratory.

### Hôpital St. Justine

9.00—

*"Keratite interstitielle: Traitement: Presentation de malades."*  
*(Interstitial Keratitis: Treatment: Presentation of Cases).*

*"Abces retro-pharyngiens: Complications: Traitement."*  
*(Retro-pharyngeal Abscess: Complications: Treatment).*

*"Strabisme et traitement."*  
*(Strabismus and Treatment).*

Thursday, June 20

### Windsor Hotel

Prince of Wales Salon

9.00—

Dr. I. Reubert Smith, Toronto.  
*"Upper Respiratory Infection in Relation to Pulmonary Diseases."*

Dr. Alex. E. MacDonald, Toronto.  
*"The Relationship between Sub-hyaloid and Intracranial Hemorrhage."*

Dr. J. Rosenbaum, Montreal.  
*"Pregnancy as a Cause of Disturbed Vision."*

Sir St. Clair Thomson, London, England.  
*"The Operation of Laryngo-fissure for Intrinsic Cancer of the Larynx."* (Lantern slides).

Dr. Geo. W. Fletcher, Winnipeg.  
*"The Antra of Highmore as a Cause of Chronic Nasal Catarrh."*

Business Meeting of Section.

Election of Chairman and Secretary for the next meeting. Discussion opened by Dr. Gordon Byers, Montreal, on the formation of an Ophthalmological Section of the Canadian Medical Association with a permanent secretary.



**Dr. J. N. Roy, Montreal.**

"A Case of Typhoid Neuritis of the Recurrent Nerves with Consequent Paralysis of the Laryngeal Dilators."

**Friday, June 21**

**Hôtel-Dieu**

**Clinical and Operative**

9.00—

**Dr. F. Badeaux.**

"Autoplastie oculo-palpebrale."  
(Oculo-palpebral Autoplasty). Presentation of Cases.

**Dr. F. Badeaux.**

"Mucocoele du sinus frontal."  
(Mucocoele of the Frontal Sinus: Operation).  
Presentation of Case.

**Dr. F. Badeaux.**

"Amygdalectomies: Anæsthesia locale."  
(Tonsillectomies under Local Anæsthesia).

**Drs. A. Lassalle, P. Bousquet, and G. Bedard.**

"Lésions neuro-oculaires."  
(Neuro-Ocular Lesions). Presentation of Cases.

**Montreal General Hospital**

9.00—

**Staff.**

"Tonsil and Adenoid Operations."

**Dr. A. O. Freedman.**

"Practical Points in the Functional Testing of the Ear."

**Dr. B. F. MacNaughton.**

"Plastic Surgery of the Nose." (Lantern slides).

**Dr. Geo. Hodge.**

"Common Bronchoscopic Lesions." (Lantern slides.)

**Dr. A. E. Lundon.**

"Presentation of Cases: Laryngectomy; Brain Abscess; Papilloma of Larynx."

**Dr. Geo. Mathewson and Staff.**

"Demonstration of Clinical Cases in Ophthalmology."

**Hôpital Notre-Dame**

9.00—

**Dr. J. Brault.**

"Glaucoma: Operation." Presentation of Cases.  
"Strabismus: Operation." Presentation of Cases.

**Royal Victoria Hospital**

9.00—

**Staff.**

"Surgery of the Mastoid."

**Dr. J. T. Rogers.**

"Accessory Sinuses."

**Dr. G. E. Tremble.**

"Demonstration of the Audiometer." Pathological Specimens.

**Staff.**

"Tonsil and Adenoid Operations: Intranasal Operations."

Dr. W. G. M. Byers and staff will present cases of clinical interest, with slitlamp demonstrations as a special feature. Operations will be staged on the same days, and Dr. Byers hopes to have cases of cataract suitable for intracapsular extraction. A large exhibit of pathological specimens will be in the department laboratory.

## SECTION OF GYNÆCOLOGY AND OBSTETRICS

**Chairman:** Dr. W. A. Scott, Toronto

**Secretary:** Dr. W. A. Dafoe, Toronto

### LOCAL COMMITTEE

**Chairman:** Dr. L. deL. Harwood.

**Secretary:** Dr. Léon Gérin-Lajoie

**Members:** Drs. W. W. Chipman, C. C. Gurd, L. deL. Harwood, S. Langevin, H. M. Little, H. L. Reddy, Gaston René de Cotret, E. St Jacques.

### PROGRAM

**Wednesday, June 19**

**Hôpital Notre Dame**

**Clinical and Operative**

**Dr. L. deL. Harwood, A. Ethier, R. Trudeau, H. Aubry, L. Gérin-Lajoie.**

9.00—10.30—Out-patient Department: Presentation of Cases.

10.30—12.00—Operations.

**Drs. A. E. R. de Cotret, D. A. Benoit, A. Pinsonneault.**

9.00—11.00—Obstetric Out-Patient Department.

**Royal Victoria Montreal Maternity Hospital**

9.00—

**Dr. W. W. Chipman and Staff.**

*Forceps Delivery.* (a) Anterior Position; (b) Posterior Position."

"The Management of the Third Stage of Labour."

"Episiotomy; Its Indications and Repair."

"Cæsarean Section."

**Thursday, June 20**

**Hôpital Notre Dame**

**Clinical and Operative**

**Dr. L. deL. Harwood, A. Ethier, R. Trudeau, H. Aubry, L. Gérin-Lajoie.**

9.00—10.30—Ward rounds

10.30—12.00—Operations

**Drs. A. E. R. de Cotret, D. A. Benoit, A. Pinsonneault.**

9.00—10.30—Obstetrics: Demonstrations: Amphitheatre

10.30—12.00—Ward rounds

**Montreal General Hospital**

(Out-patient Department and Theatre)

9.00—12.00—

**Dr. H. M. Little and Staff.**

"Anatomy of the Female Pelvis, with Special Reference to Obstetric Injury."

Demonstration with actual cases:

"Cystogram for Diagnosis of Cystocoele."

"Protein Therapy in Pelvic Infections."

"The Actual Cautery in Endocervicitis."

"Radium in Carcinoma of the Uterus."

Operations:

"Birth Trauma; Cystocoele, Rectocoele, Prolapse."

"Laparotomy, with Special Reference to Minor Points of Technique."

### Royal Victoria Montreal Maternity Hospital

9.00—

Dr. W. W. Chipman and Staff.

*"Sacro-Pubic Hernia: Cystocele. Prolapsus Uteri and Rectocele: Its Operative Repair."**"Choked Pelvis (an Inveterate Neisser Infection): Operative Treatment."**"Cancer Cervix: Early and Moderately Advanced: Radium or Hysterectomy."*

Friday, June 21

### Windsor Hotel Prince of Wales Salon

9.00—1. Election of officers for next meeting of section

2. Dr. W. B. Burnett, Vancouver.

*"Technique of Version." (Lantern slides.)*

3. Dr. Ross Mitchell, Winnipeg.

*"Toxamias of Pregnancy."*

4. Dr. H. B. Atlee, Halifax.

*"A Plea for a Livelier Puerperium."*

5. Dr. N. O. Frawley, Toronto.

*"Radiotherapy in Gynecology."*

6. Dr. E. H. McLellan, Halifax.

*"Title to be announced."*

7. Dr. W. W. Lailey, Toronto.

*"Rupture of the Uterus."*

8. Dr. F. Gagnon, Quebec.

*"Title to be announced."*

9. Symposium on Maternal Mortality throughout Canada. (Production of statistics for comparison).

### SECTION OF HISTORICAL MEDICINE

Chairman: Dr. J. W. Crane, London, Ont.

Secretary: Dr. J. H. Elliott, Toronto.

#### LOCAL COMMITTEE

Chairman: Dr. Léo Pariseau.

Secretaries: Dr. Oscar Mercier, Jr., Dr. H. E. MacDermot.

Members: Dr. Maude E. Abbott, Sir Andrew Macphail, Dr. A. Vallée, Dr. Eugene St. Jacques.

#### PROGRAM

Wednesday, June 19

#### Hôtel-Dieu

9.00—1. Exhibits of records of the hospital, with other material of historical interest, to be described in detail in separate booklet. The exhibits will be presented by Dr. Léo Pariseau.

2. Dr. A. Vallée, Quebec.

*"L'Anatomie-pathologique en France il y a cent ans."**(Pathological Anatomy in France a Hundred Years Ago).*

### OSLER DAY

Thursday, June 20

### McGill University Medical Building

9.00—1. A selection will be made from the Osler Library, on which Dr. Francis will make some comments. The Osler Library itself will be open to inspection. There will be also exhibits in the Medical Library adjoining.

2. Sir Andrew Macphail, Montreal

*"Some Problems in Diagnosis."* (Dealing with obscure points regarding illnesses of some famous men).

3. Dr. J. H. Elliott, Toronto.

*"The First License of the Upper Canada Medical Board, 1819."*

Friday, June 21

### Bibliothèque St. Sulpice 1700 St. Denis St.

9.00—1. Exhibits of rare books from the Library and the Provincial Archives—presented by Dr. Léo Pariseau. Descriptive details will also be found in the booklet.

2. Dr. Wm. Boyd, Winnipeg.

Paper—"Addison."

12.30—Luncheon for members of the Section—Windsor Hotel, Salon A.

Business meeting for election of Chairman and Secretary. (Tickets for Luncheon at Registration Desk).

The Section is also participating in other activities of the meeting as follows: Presentation of the Harvey Film before the General Sessions by Dr. Léo Pariseau: Choosing the subject for reproduction on the menu card of annual dinner.

### SECTION OF INTERNAL MEDICINE

Chairman: Dr. C. F. Martin.

Secretary: Dr. C. C. Birchard.

#### LOCAL COMMITTEE

Chairman: Dr. C. F. Martin.

Secretary: Dr. C. C. Birchard.

Members: Drs. J. E. Dubé, A. Lesage, E. H. Mason, I. M. Rabinowitch.

#### PROGRAM

Wednesday, June 19

#### Hôtel-Dieu

9.00—11.00—

Drs. J. E. Dubé, I. E. Bruneau and Staff.

Demonstration of Clinical Cases.

### Montreal General Hospital

Dr. C. P. Howard.

9.30—Bed-side Clinics (Ward E).

Dr. L. C. Montgomery.

10.30—"Rheumatism." (Lecture Room, Nurses' Home.)

Dr. F. H. Mackay.

11.00—"Poliomyelitis." (Lecture Room, Nurses' Home.)

Dr. H. E. MacDermot.

11.30—"Differential Diagnosis and Treatment of Asthma." (Lecture Room, Nurses' Home.)

Dr. E. S. Mills.

12.00—"Diagnosis and Treatment of the Anemias."  
(Lecture Room, Nurses' Home.)

### Hôpital Notre-Dame

9.00—10.30—

1. Dr. A. de Guise.

"Le traitement de l'insuffisance aigue du coeur par l'ouabaine."  
(Treatment of acute insufficiency of the heart by ouabaine.)

2. Dr. R. Boucher.

"Un cas d'érythromélgie."  
(A case of erythromelalgia.)  
"Tuberculose à localisations multiples sans tuberculose pulmonaire."  
(Multiple tuberculous localizations without pulmonary tuberculosis.)

3. Prof. A. Léger.

"Traitement salicylé dans le rhumatisme articulaire aigu."  
(Salicylate therapy in the acute articular rheumatism.)

4. Prof. A. LeSage.

"De l'action de la quinidine dans quelques affections cardiaques."  
(The action of quinidine in some particular heart diseases.)  
"De quelques indications du neptal comme diurétique dans les affections de la plèvre et du foie."  
(Some indications for neptal as diuretic in diseases of the pleura and liver.)

### Royal Victoria Hospital

#### Medical Theatre, Out-Patient Dept.

Dr. W. de M. Scriver.

9.30—"Therapeutic Results with the Newer Drugs for Lowering Blood Pressure."

Dr. G. R. Brow.

10.00—"Appreciation of Cardiac Arrhythmias by Physical Examination."

Dr. E. H. Mason.

10.30—"Diagnosis of Diabetes Mellitus."

Dr. Meakins.

11.00—J. C. "Treatment of Paroxysmal Tachycardia."

Drs. R. H. M. Hardisty and C. G. Sutherland.

11.30—"Dispensary Treatment of Peptic Ulcer."

Dr. J. Kaufmann.

12.00—"Post-tonsillectomy Lung Abscess; Fusospirochatal Infection."

### Windsor Hall

(Papers limited to 15 minutes each—no discussion.)

9.30—12.30—

1. Dr. Norman Viner, Montreal.

"Relief of Intractable Pelvic and Leg Pains by Means of Sacral Epidural Injections."

2. Dr. I. M. Rabinowitch, Montreal.

"Influence of Iodine and Vitamines on Exophthalmic Goitre."

3. Dr. A. A. Fletcher, Toronto.

"Chronic Arthritis."

4. Dr. W. R. Campbell, Toronto.

"Changes in the Fundus Oculi in Certain General Diseases."

5. Dr. F. J. H. Campbell, London.

"Mental Changes in Physical Disease."

6. Dr. J. E. Dubé, Montreal.

"Preventive Medicine in Relation to Degenerative Diseases."

7. Dr. C. A. Peters, Montreal.

"Differential Diagnosis of Thoracic Pain."

8. Dr. A. H. Gordon, Montreal.

"Methods of Treatment in Pneumonia."

9. Dr. C. P. Howard, Montreal.

"Visceral Manifestations and the Erythema Syndrome." (If time permits.)

10. Dr. J. C. Meakins, Montreal.

"Lung Volume and its Variations." (If time permits.)

Friday, June 21

### Hôtel-Dieu

Drs. J. E. Dubé, I. E. Bruneau and Staff.

9.00—11.00—Demonstration of Clinical Cases.

### Montreal General Hospital

Dr. A. H. Gordon.

9.30—Bed-side Clinics. (Ward C.)

Dr. D. G. Campbell.

10.30—"The Use and Abuse of Vaccines and Sera."  
(Lecture Room, Nurses' Home.)

Dr. C. C. Birchard.

11.00—"Diagnosis and Treatment of the More Common Pulse Irregularities." (Lecture Room, Nurses' Home.)

Dr. I. M. Rabinowitch.

11.30—"Principles of the Diagnosis and Treatment of Diabetes Mellitus." (Lecture Room, Nurses' Home.)

### Hôpital Notre-Dame

9.00—10.30—

1. Dr. L. H. Gariepy.

"Nouveau traitement de la pneumonie."  
(New treatment of pneumonia.)  
"Sur le pneumothorax."  
(Pneumothorax.)

2. Dr. J. A. Mousseau.

"L'alimentation duodénale par le tubage d'Einhorn dans le traitement médical des ulcères gastropyloriques."  
(Duodenal feeding by Einhorn tube in the medical treatment of gastro-pyloric ulcers.)

3. Dr. J. A. Rouleau.

"Présentation de malade."  
(Case Reports.)

4. Prof. E. P. Benoit.

"Le vaccin colitique dans les colibacilluries."  
(Colitic Vaccine in Colibacillus Infections.)

### Royal Victoria Hospital

#### (Medical Theatre, Out-Patient Dept.)

Dr. C. K. Russel.

9.30—"Newer Adjuncts in the Diagnosis of Diseases of the Nervous System."

Dr. D. S. Lewis.

10.00—"Relationship Between Acute Infections and Hemorrhagic Nephritis."

Dr. T. R. Waugh.

10.30—"Early Diagnosis of Pernicious Anæmia."

Dr. W. F. Hamilton.

11.00—"Inthoracic Malignancy."

Dr. C. F. Moffatt.

11.30—"Coronary Artery Disease in Relation to Cardiac Failure."

Dr. A. T. Henderson.

12.00—"Unusual Cases of Pernicious Anæmia."

## SECTION OF MENTAL DISEASES

### LOCAL COMMITTEE

Chairman: Dr. C. A. Porteous

Secretary: Dr. E. C. Menzies

Members: Drs. R. H. Angrove, A. H. Desloges, F. E. Devlin, W. T. B. Mitchell, Daniel Plouffe.

### PROGRAM

Wednesday, June 19

Windsor Hotel

Prince of Wales Salon

9.00—

1. Dr. A. H. Desloges, Montreal.  
"Introductory Remarks."

2.—Business meeting. Application to Canadian Medical Association for enrolment as a Section. Election of Chairman and Secretary for next meeting of Section.

3. Dr. J. C. Miller, Quebec.  
"Feeble-mindedness."  
Discussion led by Dr. D. Plouffe, Montreal

4. Dr. R. H. Angrove, Ste. Anne de Bellevue, Que.  
"Ten Years with Psychopathic Disorders among Ex-soldiers."  
Discussion led by Dr. E. Brosseau, Quebec

5. Dr. G. Desrochers, Quebec.  
"A Study of Some Cases of Traumatic Psychoses."  
Discussion led by Dr. Legrand, Montreal.

6. Dr. W. T. B. Mitchell, Montreal.  
"The Clinical Significance of some Trends in Adolescence."  
Discussion led by Dr. C. B. Farrar, Toronto.

7. Dr. F. E. Devlin, Montreal.  
"Problems of Alcoholism."  
Discussion led by Dr. E. W. Ryan, Kingston.

Thursday, June 20

Verdun Protestant Hospital

9.30—

1. Dr. E. C. Menzies, Verdun, Que.  
"Review of Six Years of Treatment for Cerebro-spinal Lues at the Verdun Protestant Hospital and Conclusions arrived at—with Presentation of Cases."  
Discussion led by Dr. Norman Viner, Montreal.

2. Dr. A. Fiertz, New York.  
"Observations on the Problem of Neuro-syphilis."  
Discussion led by Dr. A. G. Morphy, Montreal.

3. Dr. Geo. E. Reed, Verdun, Que.

"Some Observations for the Use of Manganese Chloride in the Treatment of Dementia Præcox."

Discussion led by Dr. W. M. English, Brockville, Ont.

Friday, June 21

Hôpital St. Jean de Dieu

9.00—

1. Dr. Paul Décary.  
"Conception française du Délire Systematisé."  
(French Conception of Paranoia).  
Discussion led by Dr. Georges Loignon.

2. Dr. Georges Ravenal.  
"Traitement de l'épilepsie."  
Discussion led by Dr. R. Richard.

3. Dr. Emile Legrand.  
"Démembrement de la Démence Précoce."  
(Classification of Dementia Præcox).  
Discussion led by Dr. Gaston de Bellefeuille.

4. Dr. A. Bertrand.  
"Démonstration de la réaction à la gomme d'épinette dans la liquide céphalo-rachidien."  
(Demonstration of the reaction to Spruce balsam in the cerebro-spinal fluid.)  
Discussion led by Dr. Paul Décary.

## SECTION OF PÆDIATRICS

Chairman: Dr. M. J. Carney, Halifax

Secretary: Dr. G. B. Wiswell, Halifax

### LOCAL COMMITTEE

Chairman: Dr. H. B. Cushing

Secretary: Dr. H. P. Wright

Members: Drs. G. Lapierre, J. A. Leduc, L. M. Lindsay, D. Longpré, R. R. Struthers

### PROGRAM

Wednesday, June 19

Windsor Hall

9.00—Business meeting of Section: Election of Chairman and Secretary for next annual meeting of Section.

### 9.30—POLIOMYELITIS—SYMPOSIUM

Dr. L. J. Rhea, Montreal.

9.30—(a) "The Pathology of Poliomyelitis." (Lantern slides).

Dr. C. F. McKhann, Boston.

(b) "The Early Diagnosis of Poliomyelitis." (Moving pictures).

Dr. H. B. Cushing, Montreal.

(c) "The Specific Treatment of Poliomyelitis."

Dr. P. F. Armand-DeLille, Paris.

10.30—(Subject to be announced).

Dr. Gladys Boyd, Toronto.

11.00—"The Treatment of Diabetic Coma in Children."

Thursday, June 20

Hôpital St. Justine

Drs. A. Feiron, J. C. Crepault, E. Dubé, J. H. Rivard.

9.30—11.30—Presentation des Malades.  
(Clinical Cases).



### Royal Victoria Hospital (Large Surgical Theatre)

- Dr. H. C. Bussiere.  
9.00—"Methods for the Collection of Urine in Infancy."
- Dr. A. K. Geddes.  
9.20—"The Treatment of Congenital Lues."
- Dr. H. P. Wright.  
9.40—"Tuberculin Tests in Infancy and Childhood."
- Dr. S. G. Ross.  
10.00—"The use of Irradiated Ergosterol in the Treatment of Rickets."
- Dr. Cameron Stewart.  
10.20—"Administration of Fluids in Infancy."
- Dr. W. E. Williams.  
10.40—"The X-Ray Treatment of Enlarged Thymus in Infancy."
- Dr. J. B. Sriver.  
11.00—"A Case of Sickle Cell Anæmia."

### Children's Memorial Hospital Out-Patient Department

- Dr. A. Lax.  
11.30—"Case of Celiac Disease."
- Drs. H. B. Cushing and M. W. Bloomberg.  
11.45—"Rickets and its Treatment."
- Dr. A. Goldbloom.  
12.00—"Tuberculosis in Childhood."
- Dr. L. M. Lindsay.  
12.15—"Case of Diabetes Insipidus."

### La Crèche d'Youville

- 11.30—12.30 "Ward Rounds with Demonstration of Care and Feeding of Infants."

### Montreal Foundling and Baby Hospital

- 11.30—12.30—"Ward Rounds with Demonstration of Care and Feeding of Infants."

Friday, June 21

### Hôpital St. Justine

- 9.00—11.30—  
1. Dr. J. C. Bourgouin.  
*Présentation de Malade. (Clinical Case).*
2. Dr. Gaston Lapierre.  
*"Comment Établir la Valeur de la Prophylaxie Contre la Diphtérie." (Remarks on the Value of Prophylaxis in Diphtheria).*
3. Dr. Henri Baril.  
*"Meningite Cérébro-spinale et Sérothérapie: cas Rapports de Guérison." (Serotherapy in the Treatment of Cerebro-spinal Meningitis with Report of Cases).*
4. Dr. Paul Letondal.  
*"Le Rhumatisme Blennorrhagique chez une fillette de trois ans." (Gonorrheal Rheumatism in a Girl of Three Years).*

5. Drs. A. J. Lafleur, A. Dutilly, O. Hamel, L. Coutu.  
*Présentation de Malades. (Clinical Cases).*

### Montreal General Hospital (Lecture Theatre—Nurses' Home)

- Dr. Mary Childs.  
9.00—"A Case of Hyperthyroidism in a Child."
- Dr. L. J. Rhea.  
9.15—"Demonstration of the Pathological Lesions of Rheumatic Heart Disease in Children."
- Dr. A. B. Chandler.  
9.45—"Active Immunization of Children Against Scarlet Fever—Results of Three Years' Investigation as to Dosage, Reaction and Duration of Immunity."
- Dr. S. J. Usher.  
10.15—"The Treatment of Enuresis."
- Dr. R. R. Struthers.  
10.30—"Pyuria in Children."
- Dr. B. Benjamin.  
10.45—"Enlargement of the Thymus Gland in Infancy."

### Hôpital St. Paul

(Infectious Diseases)

- 11.30—12.30 Ward Rounds

### Alexandra Hospital

(Infectious Diseases)

- 11.30—12.30 Ward Rounds

### SECTION OF PATHOLOGY AND BACTERIOLOGY

Chairman: Dr. Gordon C. Cameron, Toronto  
Secretary: Dr. W. J. Deadman, Hamilton

#### LOCAL COMMITTEE

Chairman: Professor Pierre Masson.  
Secretaries: Dr. L. J. Rhea and Dr. L. C. Simard

- Dr. L. J. Adams, Montreal.  
9.00—"Multiple Septic Cerebral Emboli in a Case of Sub-acute Bacterial Endocarditis."
- Dr. L. Paterson-Smyth, Montreal.  
"Sphenoidal Chordoma."
- Dr. W. V. Cone, Montreal.  
"Newer Methods of Stains for the Central Nervous System."
- Drs. W. H. Chase and Maude E. Abbott, Montreal.  
"Remarks upon a Case of Bicuspid Aortic Valve and Associated Hypoplasia of the Aorta, and Interventricular Septal Defect, with Death from Extensive Myocardial Infarction Secondary to Mycotic Aneurysm of Coronary Artery in Subacute Bacterial Endocarditis."
- Dr. L. Paré, Montreal.  
"Le dépistage de la Diphtérie à l'hôpital Sainte-Justine; mise au point appuyée de quelques faits personnels."  
(The Technique and Diagnosis of Diphtheria in the St. Justine Hospital on the Basis of Personal Experience).

- Dr. L. Paré, Montreal.**  
*"Sur un cas D'Adamantinome."*  
 (Notes on a Case of Adamantinoma).
- Dr. I. H. Erb, Toronto.**  
*"Ewing's Sarcoma."*
- Dr. J. E. Bates, Toronto.**  
*"Amæbic Dysentery in Canada, with Report of a Fatal Case."*
- Dr. E. C. Fielden, Toronto.**  
*"Primary Thrombosis of Pulmonary Arteries, with two Case Reports."*
- Dr. G. C. Cameron, Toronto.**  
*"An Investigation in Heterohamagglutination."*
- Dr. J. E. Pritchard, Montreal.**  
*"Malignant Tumours of the Bones of Vascular Origin."*
- Dr. J. B. Ross, Montreal.**  
*"Serological Diagnosis of Bacillus Abortus Infection."*
- Miss H. Douglas, Montreal.**  
*"A Demonstration of the Preparation of Wax Moulages from Pathological Specimens."*
- Dr. R. R. Fitzgerald, Montreal.**  
*"Follicular Gastro-duodenitis." (Five Cases).*
- Dr. L. J. Rhea, Montreal.**  
*"Hemangioblastoma of the Liver."*
- Dr. W. W. Beattie, Montreal.**  
*"An Epizootic produced by a hæmolytic Streptococcus in laboratory Guinea-pigs with Abscess Formation."*
- Dr. L. Berger, Quebec.**  
*"Recherches histologiques sur la neurocrinie." (Histological Research on the Sympathetic Portion of the Endocrine Glands.)"*
- Drs. L. Berger et A. Vallée, Quebec.**  
*"Un cas de mycosis fongioide." (A Case of Fungoid Mycosis).*
- Dr. A. Vallée, Quebec.**  
*"Moules bronchiques expectorés in toto." (Bronchial Casts Expecterated in toto).*
- Drs. A. Vallée et E. Morin, Quebec.**  
*"Complications streptococciques de la dernière épidémie grippale." (Streptococcic Complications of the recent Influenza Epidemic).*
- Drs. A. Vallée et E. Morin, Quebec.**  
*"Les milieux sucrés au sucre d'érable en bactériologie." (Maple Sugar Media in Bacteriology).*
- Dr. P. Masson, Montreal.**  
*"Le complexe musculo-nerveux de la sous-muqueuse appendiculaire et ses lésions dans l'appendicite chronique." (The Neuro-muscular Mechanism of the Submucosa of the Appendix and its Lesions in Chronic Appendicitis.)"*
- Dr. L. C. Simard, Montreal.**  
*"Lymphadénome du médiastin." (Lymphadenoma of the Mediastinum).*
- Dr. W. Hay, Kingston.**  
*"Two Cases of Thymoma."*
- Dr. F. D. Ackman, Montreal.**  
*"Report of a Case of Pyloric Stenosis in a Man 70 Years of Age." (Lantern slides)*
- Dr. S. Hanford McKee, Montreal.**  
*"A Series of Intraocular Tumours." (Lantern slides).*

- Dr. A. Vallée, Quebec.**  
*"Papillo-adenomes multiples de la vésicule biliaire." (Multiple Adeno-papilloma of the Gall-bladder)*
- Dr. A. Bertrand, Montreal.**  
*"La gomme d'épinette comme antigène pour le diagnostic de la syphilis dans le liquide céphalo-rachidien." (Spruce Balsam as an Antigen for the Diagnosis of Syphilis in the Cerebro-spinal Fluid).*
- Dr. W. Boyd, Winnipeg.**  
*"Pathology of Adenomatous Goitre."*
- Dr. L. C. Simard, Montreal.**  
*"Huit cas de Maladie de Paget du mamelon." (Eight Cases of Paget's Disease of the Nipple).*

### SECTION OF PUBLIC HEALTH

Co-operating with The Canadian Public Health Association and The Canadian Social Hygiene Council.

**Chairman:** Dr. Geo. D. Porter, Toronto  
**Secretary:** Dr. J. T. Phair, Toronto

#### LOCAL COMMITTEE

**Chairman:** Dr. A. Grant Fleming  
**Secretary:** Dr. J. A. Baudouin  
**Members:** Drs. S. Boucher, Jean Décarie, A. H. Desloges, R. St. J. Macdonald, W. T. B. Mitchell, F. G. Pedley, T. A. Starkey, C. N. Valin.

**Tuesday, June 18**

#### Windsor Hall

##### Canadian Public Health Association

- 9.30—1. **Sanitary Officers.**—Report of Committee on Training of Sanitary Officers.—**Chairman,** Dr. A. C. Douglas, Medical Officer of Health, Winnipeg, Manitoba.
2. **The Present Status of Milk Control in Urban Centres.**—Report of Committee on Milk Control.—**Chairman,** R. H. Murray, C. E., Department of Public Health, Saskatchewan.
3. **The County as a Unit of Public Health Nursing.**—**Miss R. E. Hamilton, R.N., Toronto,** Director of Field Nursing, Canadian Red Cross Society.
4. **Some Aspects of the Mental Hygiene of Childhood.**—**Dr. Baruch Silverman,** Assistant Director, The Mental Hygiene Committee of Montreal.
5. **The Control of Rabies in Canada.**—**Dr. George Hilton,** Veterinary Director - General, Ottawa.
6. **Administrative Features of the Toxoid Campaign in Toronto.**—**Dr. F. S. Burke,** Department of Public Health, Toronto.
7. **The Correction of Defects among Pre-School Children.**—**Dr. J. W. Fraser,** Medical Officer of Health, Kitchener, Ontario.

**Tuesday, June 18**

#### Windsor Hall

##### Canadian Public Health Association

- 2.30—1. **Addresses of Welcome on Behalf of the Province of Quebec and the Corporation of the City of Montreal.**

2. *Presidential Address.*—Dr. Norman MacL. Harris, Chief, Laboratory of Hygiene, Department of Pensions and National Health, Ottawa.
3. *Recent Progress in Studies of Acute Respiratory Diseases.*—Dr. James A. Doull, School of Hygiene and Public Health, The Johns Hopkins University; Director, The John J. Abel Fund for Research on the Common Cold.
4. *A Retrospective Study of Public Health in the Province of Quebec During the Last Twenty-Five Years.*—Dr. Emile Nadeau, Assistant Director, Provincial Bureau of Health, Quebec.
5. *Recent Contributions to our Knowledge of Vitamins.*—Dr. Charles H. Best, Professor of Physiology, University of Toronto, and E. W. McHenry, M.A., School of Hygiene, University of Toronto.

### Wednesday, June 19

#### Public Health Section

- 9.15—1. *Annual Business Meeting and Election of Officers of the Section of Public Health, Canadian Medical Association.*
2. *Observations on the Use of B. C. G. Vaccine in Montreal.*—Dr. J. A. Baudouin, Professor of Hygiene, University of Montreal.
3. *Paper (Title to be announced).*—Dr. William Warwick, District Medical Officer of Health, St. John, N.B.
4. *Regulations for the Control of the Minor Communicable Diseases.*—Report of the Committee; Chairman, Dr. Fred. Adams, Medical Officer of Health, Essex Border Municipalities, Ontario.
5. *The Use of Convalescent Serum in the Outbreak of Anterior Poliomyelitis in Winnipeg.*—Dr. John A. McEachern, Medical Research Committee, Faculty of Medicine, University of Manitoba.
6. *Industrial Hygiene.*—Dr. O. A. Cannon, The Steel Company of Canada, Hamilton, Ontario.
7. *Immunization Against Diphtheria in Montreal.*—Dr. J. H. Gervais, Superintendent of the Division of Contagious Diseases, Department of Health, Montreal.

### Thursday, June 20, Room 129

#### Public Health Section

- 9.30—1. *Organisation de la Division de l'Hygiène de l'Enfance.*—(Organization of the Division of Child Hygiene).—Dr. Ad. Groulx, Surintendant de la Division de l'Hygiène de l'Enfance, Service de Santé, Montréal.
2. *Prophylaxie Générale de la Tuberculose.*—(General Prophylaxis in Tuberculosis).—Dr. R. P. Beaudry, Dispensaire Anti-Tuberculeux, Sherbrooke.
3. *L'Expérience de Trois Années à la Crèche d'Youville de Montréal.*—(The experience of Three Years in the "Crèche d'Youville" of Montreal).—Dr. Daniel Longpré, Chef du Service des Nourrissons à la Crèche d'Youville des Soeurs-Grises de Montréal.

4. *Les Unités Sanitaires des Comtés dans la Province de Québec.*—(County Health Units in the Province of Quebec).—Dr. L. R. Vézina, Unité Sanitaire du Comté de Terrebonne, Québec.
5. *La Pasteurisation du Lait.*—(Pasteurization of Milk).—Théodore-J. Lafrenière, I. C., Ingénieur-Sanitaire-en-Chef, Service Provincial d'Hygiène, Province de Québec.

### LABORATORY SECTION

#### Thursday, June 20

#### Canadian Public Health Association

##### Ladies' Ordinary

- 9.15—1. *Chairman's Address.*—Dr. G. B. Reed, Professor of Bacteriology, Queen's University.
2. *Bacteriological Analysis of Milk in Montreal.*—Dr. A. Bolduc, Superintendent, Division of Laboratories, Department of Health, Montreal.
3. *Report of Committee on Methods for Active Immunization.*—Chairman, Dr. D. T. Fraser, University of Toronto.
4. *Undulant Fever in Canada.*—Report of Committee.—Chairman, Dr. Chas. A. Mitchell, Health of Animals Branch, Department of Agriculture, Ottawa.
5. *The Incidence of Bovine Tuberculosis in Childhood.*—Dr. R. N. Price, Department of Pathology and Bacteriology, University of Toronto.
6. *Leptospira Icterohæmorrhagiae.*—Occurrence in Wild Rats in Toronto.—Dr. Gordon C. Cameron and Dr. D. A. Irwin, Department of Pathology and Bacteriology, University of Toronto and the Bacteriological Laboratory of the Toronto General Hospital.
7. *The Influence of Oxidized and Reduced B. Welchii Toxin in the Production of Anæmia.*—Dr. J. H. Orr, Department of Bacteriology, Queen's University.
8. *Mechanism of Oxidation—Reduction Potentials in Bacterial Cultures.*—Dr. E. M. Boyd, Department of Bacteriology, Queen's University.
9. *Bacteriological Findings in Recovered Cases of Typhoid Fever.*—M. M. Johnston, M.A. and Dr. D. W. Cameron, School of Hygiene and Connaught Laboratories, University of Toronto.

### Thursday, June 20

#### Canadian Public Health Association

##### Ladies' Ordinary

- 11.45—Annual Business Meeting, Canadian Public Health Association.
- Recommendations of the Executive Council.
- Report of the Nominating and Resolution Committee.
- Report of the General Secretary.
- Report of the Editorial Board.
- Report of the Treasurer.

**Thursday, June 20****Section of Public Health Nursing  
Canadian Public Health Association***Ladies' Ordinary*

- 2.30—1. *Chairman's Address.*—Miss Edith B. Hurley, Professor of Public Health Nursing, Université de Montréal.
2. *The Problem of Securing Recruits for the Public Health Nursing Field.*—Miss Elizabeth L. Smellie, Ottawa, Chief Superintendent, Victorian Order of Nurses for Canada.
3. *Les Infirmières de la Division de l'Hygiène de l'Enfance du Service de Santé de Montréal.*—Mlle. Maria Roy, Surveillante des Infirmières de la Division de l'Hygiène de l'Enfance, Service de Santé de Montréal.
4. (The Nurses of the Division of Child Hygiene, of the Department of Health of Montreal)
5. *Some Aspects of Industrial Nursing.*—Miss M. Dorothea MacDermot, Industrial Nurse in Charge of Health Department of the National Breweries, Limited, Montreal.
- Discussion led by Mlle. Blanche Lecompte, Infirmière-en-Chef de la Brasserie Frontenac, Montréal.

**Thursday, June 20**

- 6.30—Dinner Meeting, Province of Quebec Industrial Physicians' Association and Section of Industrial Hygiene, Canadian Public Health Association.

**Friday, June 21***Ladies' Ordinary*

- 9.30—1. *Communicable Disease in Canada and the Need for Public Education.*—Dr. A. Grant Fleming, Director, Department of Public Health and Preventive Medicine, McGill University.
2. *Some Problems in Medical Organization Having to do with the Control of Preventable Illness.*—Dr. J. H. Holbrook, Superintendent, Mountain Sanatorium, Hamilton, Ontario.
3. *Present Status of Venereal Disease Control in Canada.*—Dr. Gordon Bates, General Secretary, Canadian Social Hygiene Council, Toronto.

**Friday, June 21****Canadian Social Hygiene Council***Ladies' Ordinary*

- 2.30—Annual Meeting of Canadian Social Hygiene Council.  
Reports of Standing Committees.

**SECTION OF RADIOLOGY AND  
PHYSIO-THERAPY**

*Chairman:* Dr. Stanley Kirkland, St. John, N.B.  
*Secretary:* Dr. W. L. Ritchie, Montreal

**LOCAL COMMITTEE**

*Chairman:* Dr. W. L. Ritchie  
*Secretary:* Dr. J. W. McKay  
*Members:* Drs. A. Pivir, L. Parizeau

**PROGRAM****Wednesday, June 19****Windsor Hotel, Room 135**

(Time limit 20 minutes)

- 9.00—  
1. **Dr. P. M. Andrus, London, Ont.**  
"The Standardization of Roentgenography."  
2. **Dr. W. H. Dickson, Toronto.**  
"Studies on the Colon."  
3. **Dr. S. R. Johnson, Halifax.**  
"The Study of the Gastric Mucous Membrane as an Aid in the Diagnosis of Obscure Gastric Hemorrhage."  
4. **Dr. J. Currie McMillan, Winnipeg.**  
"X-ray Diagnosis in Abdominal Tumours."  
5. **Drs. Gustave Archambault and Albéric Morin, Montreal.**  
"Electro-desiccation versus Radio-therapy in the Treatment of Basal-cell Epithelioma of the Skin."

**Thursday, June 20****Windsor Hotel, Room 135**

- 9.00—  
1. **Dr. Ralston Paterson, Toronto.**  
"Primary Carcinoma of the Lung."  
2. **Dr. H. C. Singleton, Toronto.**  
"Enlarged Thymus in the New-born."  
3. **Dr. H. H. Murphy, Kamloops, B.C.**  
"Massive Collapse of the Lung."  
4. **Dr. Frank A. Smith, Winnipeg.**  
"Uterine Conditions Treated by Radium."  
5. **Dr. W. V. Cone, Montreal.**  
"The Interpretation of Roentograms after Ventriculography and Encephalography."

**Friday, June 21****Windsor Hotel, Room 135**

- 9.00—  
1. **Dr. W. A. Jones, Kingston.**  
"Observations Regarding Light Therapy."  
2. **Dr. Earle E. Shepley, Saskatoon, Sask.**  
"The Relationship of Physiotherapy to the Practice of Medicine."

General Business Meeting of the Section, at which the election of officers for the 1931 meeting will be held. Other matters relating to this section will also be considered and discussed.

**Saturday, June 22**

Arrangements have been made to permit of visiting the various hospitals, including the Radium Institute.

**SECTION OF SURGERY**

*Chairman:* Dr. George Wilson, Toronto  
*Secretary:* Dr. John Sparks, Kingston

**LOCAL COMMITTEE**

*Chairman:* Dr. P. Z. Rhéaume  
*Secretary:* Dr. F. A. C. Scrimger  
*Members:* Drs. B. G. Bourgeois, F. Demartigny,  
J. E. Dubé, R. R. Fitzgerald,  
E. Trottier.



Wednesday, June 19

Hôtel-Dieu

Clinical and Operative

9.00—

Prof. Rhéaume and Staff.

Operations:

"Cancer du Rectum."  
(Cancer of the Rectum.)

"Gastro-entérostomie."  
(Gastro-enterostomy.)

"Gastrectomie."  
(Gastrectomy.)

"Hystérectomie."  
(Hysterectomy.)

"Appendicectomie."  
(Appendicectomy.)

"Hystérectomie totale."  
(Complete Hysterectomy.)

"Appareil plâtré pour fracture."  
(Plaster Cast for Fractures.)

11.00—

Dr. E. St.-Jacques.

Amphitheatre:

"Les splénomégaties."  
(Splenomegalies.)

Dr. D. A. Hingston.

"Quelques indications pour la chirurgie de la glande thyroïde."  
(Some Suggestions for Surgery of the Thyroid Gland.)

Dr. L. P. Sénécal.

"Grefte osseuse dans le mal de Pott."  
(Bone Graft in Pott's Disease.)

Dr. Wm. Dérome.

"Un cas d'entérolithe."  
(Case of Enterolith.)

Dr. M. Fauteux.

"Un cas de maladie de Buerger."  
(Case of Buerger's Disease.)

Dr. J. P. Roux.

"Deux cas de goîtres frustres."  
(Two Cases of arrested Goitre.)

**Montreal General Hospital**

Dr. A. T. Bazin.

9.00—Amphitheatre:

"Cholecystectomy; Drainage of Common Duct."

Dr. W. Penfield.

"Operations on the Central Nervous System for the Relief of Intractable Pain."

Dr. J. A. Nutter.

11.00—"Orthopædic Operations."

Dr. A. T. Bazin and Staff.

9.00—12.00—Small Theatres:

"Routine Operations."

Dr. Fraser Gurd.

9.00—12.00—Gallery L. and M.

"Fractures."

**Hôpital Notre-Dame**

9.00—10.30—

Prof. O. F. Mercier and Staff.

Operations.

10.30—12.00—

Dr. R. Doré.

"Technique de la thyroïdectomie sous anesthésie locale."  
(Technique of Thyroidectomy under Local Anesthesia.)

Dr. J. U. Gariépy.

"Grefte ankylosante d'Albee pour mal de Pott."  
(Albee's Bone Graft in the Treatment of Pott's Disease.)

"Thrombo-angéite oblitérante."

(Thrombo-angitis obliterans.)

Dr. L. Blagdon.

"Sur la chirurgie gastrique."

(Gastric Surgery.)

Dr. O. F. Mercier.

"L'ostéo-synthèse temporaire par l'appareil amovible Mercier."

(Mercier's Apparatus for Temporary Immobilization of Bone Fragments.)

**Royal Victoria Hospital**

(Amphitheatre No. 1)

9.00—12.30—

Dr. C. B. Keenan.

"Post-operative Ileus; Discussion of Diagnosis and Treatment."

"Surgical Treatment of Gastric and Duodenal Ulcer."

"Operative Cases."

Dr. F. McKenty.

"Operative Cases."

**Orthopædic Surgery**

Drs. W. B. Turner and W. J. Patterson.

Operations:

"Extra Articular Fusion of the Hip Joint."

"Bone Graft of Spine."

Demonstration of Cases:

"Separation of Femoral Epiphysis."

"Slipped Epiphysis of Femur."

"Bone Graft of Spine."

**Hôpital Sainte Jeanne-d'Arc**

9.30—

Dr. Nové Jossierand.

"Des arthropathies tabétique."

(Tabelic Arthropathies.)

Dr. René Desaulniers.

"De la pression artérielle en clientèle."

(Arterial Hypertension in Practice.)

Dr. F. de Martigny.

"De l'infection puerpérale et de ses traitements."

(Puerperal Infection and Its Treatment.)

"De l'appendicite."

(Appendicitis.)

Dr. Armand Paré.

"De l'occlusion intestinale."

(Intestinal Obstruction.)

Thursday, June 20

Hôtel-Dieu

Clinical and Operative

9.00—

Drs. St. E. Jacques, D. A. Hingston and Staff.

Operations:

"Thyroïdectomie par la méthode de Sebileau."  
(Thyroidectomy by Sebileau's Method.)

"Cholécystectomie."  
(Cholecystectomy.)

"Fibrome utérin."  
(Uterine Fibroma.)

"Hémorroïdes."  
(Hæmorrhoids.)

"Transfusion sanguine."  
(Blood Transfusion.)

11.00—

**Dr. P. Z. Rheume.**

Clinic.

*"Procédé spécial d'anūs artificiel."*  
(Special Technique for Artificial Anus.)*"Sténose pylorique congénitale."*  
(Congenital Pyloric Stenosis.)*"Traitement du cancer du rectum par la chirurgie et le radium."*  
(Treatment of Cancer of the Rectum by Surgery and Radium.)**Dr. A. St. Pierre.***"Traitement du cancer du col utérin par le radium et la chirurgie."*  
(Treatment of Cancer of Cervix Uteri by Radium and Surgery.)**Dr. A. Paré.***"Perforation traumatique de l'estomac."*  
(Traumatic Perforation of the Stomach.)*"Un cas de gastro-entérostomisation."*  
(Case of Gastro-enterostomy.....)**Dr. E. Trottier.***"Deux cas d'occlusion intestinale."*  
(Two Cases of Intestinal Obstruction.)*"Un cas de déchirure du ménisque du genou."*  
(Case of Tearing of the Semilunar Cartilage of the Knee.)**Dr. E. Prud'homme.***"Deux cas d'absence congénitale du vagin."*  
(Two Cases of Congenital Absence of the Vagina.)**Dr. P. Marchildon.***"Un Cas de Gastrectomie partielle pour cancer."*  
(Partial Gastrectomy for Cancer.)**Dr. Oscar Mercier.***"Utilité de la pyélographie dans les calculs du rein."*  
(Usefulness of Pyelography in Renal Calculus.)**Montreal General Hospital****Dr. E. M. Eberts.**

9.00—11.00—Amphitheatre.

*"Operation for Goitre."**"Operation for Gastric Disease."***Dr. E. M. Eberts and Staff.**

9.00—12.00—Small Theatres.

*"Routine Operations."***Dr. F. J. Tees.**

9.00—12.00—Gallery L. and M.

*"Fractures."***Hôpital Notre-Dame****Prof. B. Bourgeois and Staff.**

9.00—10.30—Operations.

**Dr. A. Bellerose.**

10.30—12.00—Amphithéâtre.

*"Traitement des fractures du coude."*  
(Treatment of elbow fractures.)**Dr. O. A. Gagnon.***"A propos de l'hallux valgus."*  
(On the hallux valgus.)*"Sérothérapie antigangréneuse."*  
(Antigangrenous serotherapy.)**Dr. J. A. Demers.***"Présentation de malade."*  
(Case Reports.)**Dr. N. Fournier.***"Indications du lavage des vésicules séminales dans le traitement de la blennorrhagie."*  
(Indications of the Washing of the Seminal Glands in the Treatment of Gonorrhœa.)**Prof. B. Bourgeois.***"A propos de l'appendicite chronique."*  
(Chronic appendicitis.)**Royal Victoria Hospital**

(Amphitheatre No. 1.)

9.00—12.30—

**Dr. E. W. Archibald.***"Surgery of Pulmonary Tuberculosis."**"Chronic Non-tuberculous Bronchiectasis."*

Operations:

*"Extra Pleural Thoracoplasty."**"Phrenic Exeresis."***Dr. F. A. C. Scrimger.***"Idiopathic Dilation of Esophagus: Discussion and Case Demonstration."**"Rami-section for the Relief of Abdominal Pain: Discussion and Demonstration."*

Operations:

*"Thyroidectomy and Herniotomy."*

(Amphitheatre No. 2)

**Dr. W. Penfeld.***"Surgical Treatment of Spina Bifida: Presentation of Cases and Illustration of New Method."***Dr. W. V. Cone.***"Localization of Obscure Tumours of the Brain by Mechanical Means: Presentation of Illustrative Cases and Demonstration of the Method of Encephalography."***Dr. J. Kaufman.***"Demonstration of the Injection Method for the Treatment of Varicose Veins."***Hôpital Sainte-Justine**

9.30—10.30—

**Drs. A. Ferron, A. Z. Crépault, E. Dubé, and****J. H. Rivard.**

Ward Cases, with Explanations.

Operations:

*"Bec-de-lièvre (1er temps)."**"Hare Lip—first step."**"Cryptorchidie."**"Undescended Testis."**"Prolapsus du Rectum."**"Prolapse of the Rectum."***Friday, June 21****Windsor Hotel—General Hall**

9.00—12.30—

Business Meeting of the Section. Election of Chairman and Secretary for the next meeting.

**Dr. R. I. Harris, Toronto.***"The pathology and Treatment of Burns."***Dr. J. E. Samson, Quebec.***"Arthroplastie du genu."**"Arthroplasty of the Knee."***Dr. Roscoe Graham, Toronto.***"Thyroid Toxæmia."***Dr. C. K. P. Henry, Montreal.***"The Modern Treatment of Cancer: Surgical and Physical Agents."***Dr. A. L. Wilkie, Montreal.***"The Bacteriology of Gall-bladder Disease, Clinical and Experimental."***Dr. F. A. Brockenshire, Windsor.***"Osteomyelitis."***Dr. J. H. Rivard, Montreal.***"Exstrophy of the Bladder."***Dr. L. J. Austin, Kingston.***"Injury to Internal Iliac Artery." (Case Report)*

## SECTION OF UROLOGY

Chairman: Dr. F. S. Patch, Montreal  
Secretary: Dr. J. C. McClelland, Toronto

## LOCAL COMMITTEE

Chairman: Dr. F. S. Patch  
Secretary: Dr. O. F. Mercier, Jr.  
Members: Drs. D. W. Mackenzie, N. Fournier and  
A. B. Hawthorne

## PROGRAM

Wednesday, June 19

Windsor Hotel, Room 129

Dr. Chas. H. Hair, Toronto.

9.00—"Lesions of the Deep Urethra."

Dr. Walter P. Hogarth, Fort William.

"A Series of Forty Cases of Ureteral Calculi Treated by Manipulation."

Dr. G. S. Foulds, Toronto.

"Injuries to the Urethra and Bladder."

Discussion by Drs. N. E. Berry, O. F. Mercier and  
A. M. J. Tanney

Dr. Magnus I. Seng, Montreal.

"A Study of Blood Pressure in Prostatism."

Dr. J. C. McClelland, Toronto.

"Guinea Pig and X-Ray Diagnosis of Renal Tuberculosis."

Dr. Ralph E. Powell, Montreal.

"Tuberculosis of the Kidney: A Review of the  
Cases in the Montreal General Hospital Since  
1906."

Dr. Robin Pearce, Toronto.

"Bladder Tumours: Treatment and Results."

Dr. C. R. B. Crompton, Toronto.

"Case Report of Unilateral Fused Kidney With  
Bilateral Calculi."

Dr. A. B. Hawthorne, Montreal.

"Some Surgical Aspects of Double Ureter with  
Review of a Series of Cases."

Dr. O. Mercier, Montreal.

"Two Cases of Horseshoe Kidney."

12.30—

Luncheon for members of the Section, Salon A,  
during which the business meeting of the  
Section will be held.Business—Election of Officers for the next Annual  
Meeting. Tickets may be procured at the  
Registration desk.

Thursday, June 20

Hotel-Dieu

Dr. O. F. Mercier and Staff.

9.00—11.00—Operative Clinic:

Royal Victoria Hospital

(Amphitheatre No. 2)

Dr. D. W. MacKenzie and Staff.

11.00—1.00—Operative Clinic:

"Renal Tumours."

"Renal Infections."

"Ureteral Calculi."

"The Prostate with some of its Problems."

Friday, June 21

Hôpital Notre Dame

Drs. B. G. Bourgeois and N. Fournier.

9.00—11.00—Dry Clinics

Montreal General Hospital

Dr. I. S. Patch and Staff.

11.00—1.00—Operative Clinic

## MONTREAL: THE CONVENTION CITY

## II.—The British Régime

On September 8, 1761, articles of capitulation, signed at Montreal by General Amherst, Commander-in-chief of the British Army, and the Marquis de Vaudreuil, the French Governor, brought to an end the sovereignty of France over Canada. On that occasion not only was Montreal surrendered but half a continent as well. The following day, the forces of General Amherst took formal possession of the town, and the British flag replaced on "Citadel Hill" the lily flag of France. As Dr. W. H. Atherton remarks (History of Montreal), "France had been tried in the balance and found wanting. It had lost, through its wavering policy, a fair domain and a noble people." And de Vaudreuil, on leaving forever the country he loved well, paid it this tribute:—"With these beautiful and vast countries, France loses 70,000 inhabitants of rare quality; a race of people unequalled for their docility, bravery, and loyalty." And so they remain to-day. Parkman has well expressed the gist of the matter in the following words:—"What perished in the capitulation of Montreal was the Bourbon monarchy and the narrow absolutism which fettered the life of New France throughout the

Old Régime. What survives to-day is the vigour of two races striving to make Canada strong and free and reverent of law."

Let us try to picture the town as it was then. "The Montreal of that time was a long narrow assemblage of wooden or stone houses, one or two stories high, above which rose the peaked towers of the seminary, the spires of three churches, the walls of four convents, with the trees of their adjacent gardens; and, conspicuous at the lower end, a high mound of earth crowned by a redoubt, where a few cannon were mounted. The whole was surrounded by a shallow moat and a bastioned stone wall, made for defence against Indians, and incapable of resisting cannon."\* Newton Bosworth states in his *Hochelaga Depicta*, now a rather rare book, that, even at this time, several private houses in Montreal made a noble appearance, and the Governor's palace was a fine large building. The neighbourhood of the city contained many elegant villas; and all the known vegetables of Europe were cultivated in the gardens attached to them. The

\* Hart, G. E., *The Fall of New France*.

town within the fortifications extended from the present Craig Street to the River St. Lawrence, and from McGill Street on the southwest to the point where the Place Viger station now stands. Craig Street was then a swamp, through which coursed a little creek, the Rivière St. Pierre, now under ground in the sewers. In the wall facing the river were several gates giving access to the bank which formed a gentle declivity. There were no wharves, and, even as late as 1831, the women used to do the family washing on the shore. It is difficult to say positively what the population was at the time of the conquest, for the various statements on the point are conflicting. No doubt many of the inhabitants left of their own accord, and the official and army people were deported, but many of the seigneurs, gentle folks, and the generality of the common people remained, while not a few of those who left eventually returned. It is clear that the population, for a time at least, was a markedly fluctuating one. Bosworth estimates the number of the inhabitants in 1765 at seven thousand.

The Hon. Mr. Justice Baby, of Montreal,\* states that at the time of the conquest there were about twenty-five to thirty physicians and surgeons in the country, and Dr. J. J. Heagerty† gives the names of six or eight medical men who were then practising in Montreal. There must have been some others, also, who came in with the British regiments.

The two hospitals of Montreal were the Hôtel Dieu and the Hôpital Général, the latter rather more a hostel for the aged, the indigent, and the infirm. As the different sisterhoods in the town were granted their existing rights and privileges by the British, these institutions continued in their good work as before.

After the death of Jeanne Mance in 1673, the Hôtel Dieu, the premier hospital of Montreal, was administered by Judith Moreau de Brésoles, one of the three hospitalières sent out by M. de la Dauversière from La Flèche in 1659, who became the first Mother Superior. The original building lasted for fifty years, being burned down in 1693, and the hospital was then rebuilt in stone. It was again damaged by fire in 1721 and 1734, but, phoenix-like, it always rose from its ashes. For some further details we are indebted to Dr. Atherton's account. In 1760, owing to the scarcity of accommodation, the chapel of the order was taken possession of by Amherst's troops. It was dismantled and turned into a stable. Long afterwards the sister-procureur of the Hôtel Dieu found the account of

a bill rendered for damages, which remained unpaid. She sent the bill to Queen Victoria who promptly sent her a cheque for the amount.

The Hôpital Général of the Charron Frères was taken over in 1747 by Madame d'Youville and her companions, who received into the institution unfortunates of all kinds, refusing none. Dr. Atherton relates that "in 1756 a ward was opened to receive English soldiers, sick and wounded, who had been taken prisoners at Oswego under Shirley and Pepperel, and others during the 'Seven Years War' before the capitulation of Montreal. On September 7, 1760, the hospital, being mistaken by the English for an outwork of defence, was about to be reduced by the cannon, when a soldier ran to the general and on his knees implored him to save the hospital where he and his companions had been tended in the 'Salle des Anglais.' The result was that the officers went in and were hospitably received by Madame d'Youville with biscuits and wine

. . . . The work of caring for abandoned children, began on November 16, 1754, but was not developed till shortly after the conquest in 1760, when Madame d'Youville one day found the body of a little child frozen in the ice and its little hands raised as in supplication for justice." Burned down in 1745, the hospital was again destroyed by fire in 1765. With the help of the Seminary it was reconstructed two years later. In 1871 the institution was removed to its present site on Dorchester Street, between Guy and St. Matthew Streets. Much of the old building of 1767 was pulled down to make room for the Customs Warehouses, but part of it can still be seen near-by at the foot of McGill Street. The sisters managing the hospital are the Soeurs de la Charité, commonly known as the "Grey Nuns," a name first given to them in derision, but now borne by them proudly.

By 1821 the population of Montreal had increased to about 20,000 souls. The termination of the War of 1812 brought to the town a great number of people who, either from illness or poverty, speedily became a care. The Hôtel Dieu and the Grey Nunnery, while doing noble work, were limited as to their accommodation, the former, too, excluding certain diseases, so it was felt that more must be done to meet a situation becoming daily more urgent. Accordingly, an association of ladies was formed, (about 1815), under the title of the Ladies' Benevolent Society, to cope with the situation. The movement gained in popularity and in 1818 a sum of £1,200 was raised to relieve the wants of the sick poor. A soup kitchen was first started, but this was quite insufficient for the purpose, and a small building of four apartments was hired in the St. Joseph suburbs. This was called the House of

\* *J. Canad. Antiquarian and Numismatic Soc.* 2: 3rd ed., 304 et seq.

† *Four Centuries of Medical History in Canada* 1: 235.



Recovery. Dr. Blackwood, a retired army surgeon, and a few other medical men, gave their services free of charge. This humble institution was the beginning of the Montreal General Hospital (not to be confused with the Hôpital General, previously referred to) which has played such a noble part in the philanthropic work of the city, and is to-day one of its most popular institutions. Soon, a larger house was hired on Craig Street, capable of

tioned, with Dr. H. P. Loedel, a matron, and apothecary, and three nurses, with the necessary attendants and servants.

The foundation of the Montreal General Hospital led to other, and unexpected, results of the most far reaching importance. These were the establishment of the first medical school in Canada and the saving from probable extinction of the newly-founded McGill College. The story is well told by Dr. Maude E. Abbott

in "An Historical Sketch of the Medical Faculty of McGill University."\*

Next to be considered comes the Royal Victoria Hospital, an imposing assemblage of buildings in the Scottish baronial style, located on a magnificent site on the slopes of Mount Royal. It is conveniently situated also to the medical school of McGill University.

This institution was founded in memory of the jubilee of Queen Victoria in 1887, through the munificent gift of Lord Mount Stephen and Sir Donald A. Smith (afterwards Lord Strathcona and Mount Royal). It was inaugurated on December 2, 1893. Since the original block of buildings was constructed, a nurses' home, the Ross Pavilion, and a department of obstetrics and gynaecology (replacing the old Montreal Maternity Hospital), have been added. Across the way is the fine Pathological Institute of the University. The hospital is splendidly, even luxuriously, equipped for the

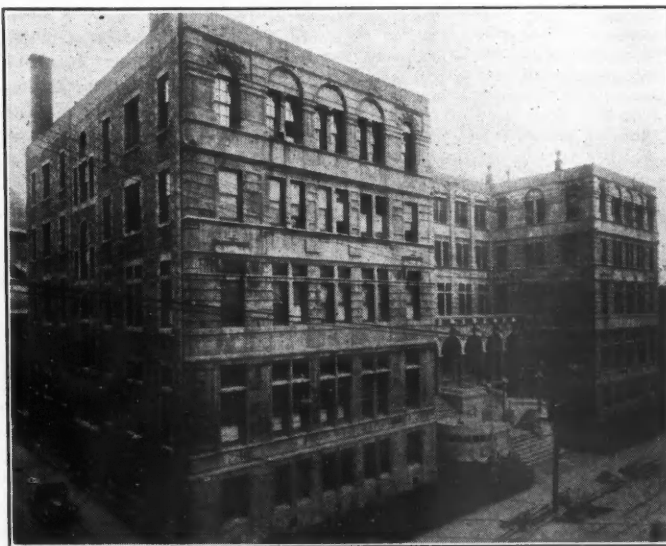
\* *Montreal Med. J.* 31: 561, August, 1902.



The Montreal General Hospital on Dorchester St., as it looks to-day

accommodating twenty-four patients. The medical work was placed in the care of four medical men, Doctors Robertson, Caldwell, Stephenson, and Holmes, who attended monthly in rotation, and one of them, as house surgeon, attended daily to care for accidents. On May the first, 1819, the patients were removed from the House of Recovery to the new institution, which now assumed the name of the Montreal General Hospital.

This venture was little more than an experiment, but it proved a successful one, and soon plans for expansion were broached. A lot on Dorchester Street, in use as a nursery, was for sale. It was then in the suburbs, and "was chosen for its proximity to the town and the salubrity of the situation." With rare liberality the lot was purchased by the Hon. John Richardson, the Hon. William McGillivray, and Samuel Gerrard, Esq., and was held by them in trust for the purpose of erecting a new hospital building upon it. This was in August, 1820. The building was opened for the reception of patients on May the first, 1822. The patients cared for that first year totalled 818. Contrast this with the year 1928, when 7,485 persons were admitted to the wards, and 147,130 were treated in the Out-patient Department. The medical staff consisted of the four gentlemen already men-



The Université de Montréal Medical School on St. Denis St.

care of the sick and the purposes of instruction. Its capacity is 700 beds. The maternity pavilion has about 212 beds.

Lack of space prevents an adequate description of the other excellent hospitals of the city.

It is of interest now to recall that the first regular meeting of the Canadian Medical Association (founded in 1867, the year of confederation) was held in Montreal on September

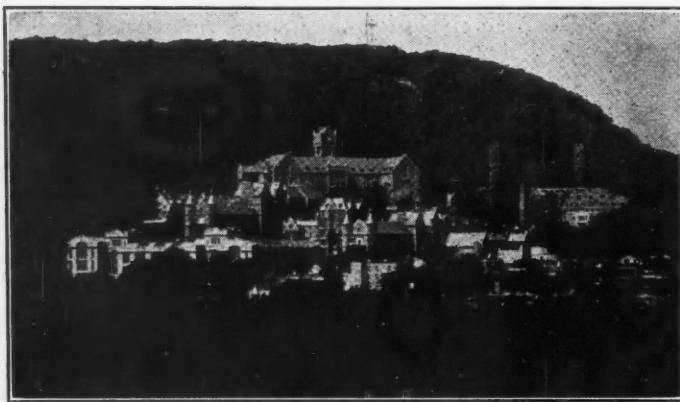
### The Canadian Public Health Association

The Canadian Public Health Association is holding the sessions of its eighteenth annual meeting during the week of the meetings of the Canadian Medical Association, namely, June 18th, 19th and 20th. The Canadian Social Hygiene Council is also holding its tenth annual meeting during this week. Realizing the value of combined meetings, a joint committee was appointed to arrange a program which would be of special interest to practising physicians. The Canadian Public Health Association extends to the members of the Canadian Medical Association and to the Canadian Social Hygiene Council a cordial invitation to attend its sessions and particular attention is drawn to the program for the Tuesday sessions, both morning and afternoon.

Every effort has been made to arrange the program so that none of the sessions will conflict with the general sessions of the Canadian Medical Association. To accomplish this, the Canadian Public Health Association, in whose membership there are more than 1,400 practising

physicians, will hold two of its most important sessions on Tuesday, June 18th, on which day business meetings only of the Canadian Medical Association are being held. The morning session on Tuesday is an attractive one to every physician. The afternoon session will be addressed by Dr. James Doull, School of Hygiene and Public Health, Johns Hopkins University, who is Director of the John J. Abell Fund for Research on the Common Cold. His subject will be "Recent progress in the study of acute respiratory diseases." Dr. Doull is a Canadian, a Nova Scotian, who has made already important contributions to our knowledge of epidemiology. His contribution to our knowledge of respiratory diseases will be welcomed not only by those engaged in official public health work, but also by all members of the profession. At this session, in addition to the presidential address of Dr. Norman MacL. Harris, Chief of the Laboratory of Hygiene, Ottawa, Dr. Emile Nadeau, Assistant Director, Provincial Bureau of Health, Quebec, and Professor Charles H. Best with Dr. E. W. McHenry will present papers. It is hoped that many members of the Canadian Medical Association will accept this invitation and plan to come to Montreal for the Tuesday sessions of the Canadian Public Health Association.

On Wednesday and Thursday mornings the Canadian Public Health Association will meet



Panorama of Mount Royal, showing the McGill University Medical Building in the left foreground; the Royal Victoria Hospital in the centre background, and the Maternity Pavilion (under construction) to the right.

2, 3, and 4, 1868, under the presidency of the Hon. Dr. Charles Tupper, C.B. Since then the Association has met in this city eleven times: the dates and presidents are as follows:

September 11-12, 1872	—	Dr. T. A. Venell, Quebec.
September 12-13, 1877	—	Dr. W. H. Hingston, Montreal.
August 25-27, 1884	—	Dr. M. Sullivan, Kingston.
September 16-18, 1891	—	Dr. T. G. Roddick, Montreal.
August 26-28, 1896	—	Dr. Jas. Thorburn, Toronto.
August 29-31, 1897	—	Dr. V. H. Moore, Brockville.
September 16-18, 1902	—	Dr. F. J. Shepherd, Montreal.
September 11-13, 1907	—	Dr. Alex. McPhedran, Toronto.
June 7-9, 1911	—	Dr. G. E. Armstrong, Montreal.
June 13-15, 1917	—	Dr. A. D. Blackader, Montreal.
June 11-15, 1923	—	Dr. C. F. Martin, Montreal.

But Montreal has other claims to be regarded as an attractive city for a convention. The picturesque setting of the city, on a series of terraces rising from the River St. Lawrence to the foot of Mount Royal, the many fine buildings and opulent residences, the mingling of the different races, and its historic past, combine to make it a city of delight, an ideal place for a holiday. On the summit of the mountain, near the place where the founder Maisonneuve planted the first rude cross of wood, has been erected a larger cross, done in electric lights, which can be seen from afar, an emblem of the faith, hope, and charity that should animate its citizens.

A. G. NICHOLLS

with the Public Health Section of the Canadian Medical Association. On Thursday morning the meeting of the Laboratory Section of the Canadian Public Health Association will be held and in the afternoon the Section of Public Health Nursing. On Friday morning a joint meeting of the Public Health Section of the Canadian Medical Association and the Canadian Social Hygiene Council has been arranged with a program of special interest.

The Windsor Hotel will be headquarters for the Associations. It is not often possible for these Associations to meet in the same city and at the same time and thus arrange for a combined program. It is hoped, therefore, that this co-operative effort will be heartily appreciated by the members.

#### No. 1 Canadian General Hospital, B.E.F.

The suggestion has been made by Colonels Murray MacLaren and C. F. Wyld, formerly commanding officers of No. 1 Canadian General Hospital, that as this year is the tenth anniversary of the return home of the hospital from active service, a re-union of the officers who served with it in England and France be held in Montreal, during the meeting of the Canadian

Medical Association in June. The re-union may take the form of a luncheon or dinner. Colonels F. G. Finley, 1551 Bishop Street, and Kenneth Cameron, 1426 Mackay Street, Montreal, will act as a Committee of Arrangements and will be pleased to receive comments or further suggestions upon this proposal.

#### The New Motor Emblems

The new motor emblems of the Canadian Medical Association will be ready within the next few weeks. These emblems have been prepared in response to a wide demand for an emblem embodying the familiar green cross and of sufficiently striking design to be readily noted by traffic policemen. The green cross has been adopted as the badge of the medical profession in several parts of Canada and already has more than proved its value when the hurried doctor has tried to cope with our increasingly stringent parking and traffic regulations.

These emblems are of French bronze upon which coloured enamel has been baked, will prove very serviceable, and will be available at the annual meeting in Montreal. A further description of these emblems will appear in the June issue of the *Journal*.

## Hospital Service Department Notes

### SOME COMMON CAUSES OF X-RAY FILM FIRES IN HOSPITALS

The January, 1929, quarterly of the *Bulletin of the National Fire Protection Association* devotes considerable space to hospital and institutional fires, and there is a section relating to fires originating in x-ray film storage rooms. "Nitrocellulose x-ray film in hospitals constitutes a very serious hazard," says this article, which points out that safety film which is now available has no greater fire hazard than a similar quantity of ordinary paper. Among the fires, originating from x-ray film, summarized in the bulletin are the following:

The x-ray department of a hospital in Syracuse, N.Y., was located on the first floor, occupying two rooms with closets, and a connecting bath room, and another room across the corridor. Some 12,000 exposed films were stored on shelves in a closet and in the x-ray room itself. The fire was discovered by a nurse who called the doctor in the adjoining room. The doctor played a soda acid extinguisher in the flames, but without effect and shortly an explosion occurred which threw him fifteen feet and set fire to the nurse's hair

and clothing. The doctor shut the door to the x-ray room and turned in a fire alarm. Before the arrival of the firemen a second explosion occurred blowing out the windows in the rooms above the x-ray department. This was caused by gas going in through the ventilators. No cause was ascribed to the fire, which was probably due to decomposition on account of heat. Two asbestos-covered steam pipes passed through the closet.

This fire clearly shows the hazard of the storage of x-ray films in quantity in buildings of this construction and occupancy without proper vaults," commented an N.F.P.A. report.

In a hospital at Bakersfield, Cal., an employee in the x-ray room laid a lighted cigarette on the edge of a desk or table. Beneath the place where the cigarette was laid was an open drawer filled with x-ray films. Apparently the hot ashes or the cigarette itself dropped into the films causing a flash fire. The heat was so intense and the fire burned so rapidly that damage of approximately \$4,000 to the building and contents resulted.

In another hospital in Massachusetts in the film storage room of the x-ray department in

the basement a fire was discovered and quickly brought under control. Much smoke was generated, however, which invaded the upper floors, and new born babies in the nursery had to be carried to the nursery cottage.

A fire with several interesting features occurred in a Detroit industrial hospital. This hospital stores its x-ray film in a brick vault in the basement. The vault has a brick flue opening in the outside wall near the second floor, and is equipped with two automatic sprinklers. A nurse who visits the hospital several times a week had recently noticed the odour of camphor and had found the air so warm that she had to leave the door open a few minutes before entering the vault. About noon one day a fire marshal at a nearby industrial plant noticed thick, light-brownish fumes escaping from the vault vent. He sounded an alarm and the fire department quickly had a stream in operation. City firemen soon had another stream ready.

"The fumes seemed to envelop the entire building. They spread up an open basement stairway and penetrated most of the wards which contained 80 patients. A second alarm brought more firemen to aid in rescue work if the fire should get beyond control. The fumes caused discomfort to some patients, but they were removed to wards on the opposite side of the building which were carefully ventilated by opening some of the windows, so that no further difficulty was experienced," says a paragraph of this report, which continues:

"Meanwhile the firemen were playing two hose streams against the outside of the vault without apparent effect. Then one of the firemen wearing a gas mask threw open the door, noticing at the same time that the two sprinklers were discharging water at good pressure. The fire then was quickly extinguished." An unusual condition was the cause of the fire. The hospital is supplied with steam through an underground pipe from an industrial plant. This pipe passed near the building wall. Opposite the vault it had rusted through and escaping steam had dug a channel extending to the corner of the vault where the fire started. Continued heating of the wall soon raised the temperature inside sufficiently to drive off the camphor in the pyroxylin, thus starting slow decomposition. The decomposition gave off heat, which further increased the decomposition, giving off characteristic brownish-white fumes and finally reached the ignition point of the gases. After the fire the contents of the vault were immediately taken outdoors. Only 15 per cent of the films were charred. The remainder were somewhat scratched in handling. Films and pyroxylin plastic in general, once heated or charred, are rendered chemically unstable and liable to spontaneous

ignition, and their prompt removal in this case was a wise precaution."—*Hospital Management*, February, 1929.

G. HARVEY AGNEW

### A SUGGESTION FROM HOSPITAL ARCHITECTS

At the recent annual meeting of the Royal Architectural Institute of Canada considerable discussion arose regarding the type of architecture used in some of the Canadian hospitals. Undoubtedly, many hospitals are poorly designed, largely because of lack of experience in the special needs of hospital planning on the part of the builders. It was suggested that some of the mistakes now made could be avoided if a course in hospital planning were included in the curriculum of the medical colleges. The architects approved this suggestion and have passed on to the Canadian Medical Association the following resolution:—

The Royal Architectural Institute of Canada make representation to the President of the Canadian Medical Association, which Association has a Hospital Division, recommending that four lectures, each of one hour's duration, be given by architects qualified and versed in such hospitalization as now under review, and included in the curriculum of the Medical Course which obtains at the various universities, such lectures to cover the following sections of the subject, namely:—

1. Hospital Planning; General Principles, including General Conception; Location; Type of Buildings; Material and Structural Considerations.
2. Isolation Hospitals; Major Quarantine Hospitals and Principles involved.
3. Special Hospitals, including Tuberculosis, Mental, etc.
4. Small Community Hospitals.

This resolution from the Royal Architectural Institute of Canada will be brought to the attention of the Council of the Canadian Medical Association at the annual meeting in Montreal in June. Following this consideration, further reference to this subject will be made in this column.

Many of the hospitals throughout Canada are handicapped because of their design or layout. Some of the smaller ones have actually been built by contractors without the help of architects, and some of the medium-sized and even large hospitals have been designed by architects who have had no previous experience in hospital construction. Hospital planning is such a highly specialized field that only constant contact with hospital problems can make one conversant with the peculiar needs of hospital construction. One handicap, frequently noted, is that the advice of the medical men on the staff is infrequently sought by the local Building Committee.

G. HARVEY AGNEW



## Provincial Association Notes

### PRELIMINARY PROGRAM FOR THE FORTY-NINTH ANNUAL MEETING OF THE ONTARIO MEDICAL ASSOCIATION, TO BE HELD IN HAMILTON, ON May 28, 29, 30, 31, 1929

#### OFFICERS, 1928-29

*President*—DR. E. A. McQUADE, Trenton.

*1st Vice-President*—DR. A. J. GRANT, London.

*2nd Vice-President*—DR. WARD WOOLNER, Ayr.

*Secretary*—DR. T. C. ROUTLEY, 184 College Street,  
Toronto.

*Hon. Treasurer*—DR. G. STEWART CAMERON,  
Peterborough.

#### THE COUNSELLOR REPRESENTATIVES

District No. 1.—DR. J. D. CURTIS, St. Thomas.  
Essex, Kent, Elgin, Lambton, Middlesex.

District No. 2.—DR. A. J. MCGANITY, Kitchener.  
Brant, Waterloo, Wellington, Oxford, Perth, Huron,  
Norfolk.

District No. 3.—DR. MALCOLM STALKER, Walkerton.  
Bruce, Grey, Dufferin.

District No. 4.—DR. J. H. HOLBROOK, Hamilton.  
Haldimand, Lincoln, Welland, Wentworth, Halton.

District No. 5.—DR. GARNET McLEAN, Woodbridge.  
Peel, York, Ontario, Simcoe.

District No. 6.—DR. F. C. NEAL, Peterborough.  
Victoria, Peterborough, Durham, Northumberland,  
Prince Edward, Hastings, Haliburton.

District No. 7.—DR. L. J. AUSTIN, Kingston.  
Frontenac, Leeds, Grenville, Lanark, Lennox, Ad-  
dington.

District No. 8.—DR. W. S. LYMAN, Ottawa.  
Carleton, Russell, Prescott, Glengarry, Stormont,  
Dundas, Renfrew.

District No. 9.—DR. W. J. COOK, Sudbury.  
Algoma, Temiskaming, Sudbury, Nipissing, Parry  
Sound, Muskoka.

District No. 10.—DR. J. C. GILLIE, Fort William.  
Kenora, Rainy River, Thunder Bay, Patricia.

#### COMMITTEE IN CHARGE OF ANNUAL MEETING

*President*—DR. E. A. McQUADE, Trenton.

*General Secretary*—DR. T. C. ROUTLEY, Toronto.

*District Counsellor*—DR. J. H. HOLBROOK, Hamilton.

*Chairman*—DR. W. J. DEADMAN, Hamilton.

*Local Secretary*—DR. G. R. D. FARMER, Hamilton.

##### Ladies' Committee:

MRS. W. J. DEADMAN, Convener.  
MRS. G. R. D. FARMER, Secretary.

##### Anæsthesia:

DR. D. A. WARREN, Chairman.  
DR. W. CODY, Secretary.

##### Badges:

DR. I. CRACK, Chairman.  
DR. E. BAGSHAW, Secretary.

##### Eye, Ear, Nose and Throat:

DR. P. B. McFARLANE, Chairman.  
DR. H. WHYTOCK, Secretary.

##### Commercial Exhibits:

DR. F. R. GILLRIE, Chairman.  
DR. K. COOKE, Secretary.

##### Entertainment:

DR. ALLAN YATES, Chairman.  
DR. G. HOUSTON, Secretary.

##### Housing:

DR. F. B. MOWBRAY, Chairman.  
DR. W. T. CONNELL, Secretary.

##### Information:

DR. J. F. HOUSTON, Chairman.  
DR. M. TEMPLIN, Secretary.

##### Transportation:

DR. D. U. MCGREGOR, Chairman.  
DR. W. G. KENNY, Secretary.

##### Medicine:

DR. W. F. NICHOLSON, Chairman.  
DR. J. SIMPSON, Secretary.

##### Obstetrics and Gynecology:

DR. W. BETHUNE, Chairman.  
DR. J. T. GREEN, Secretary.

##### Pathology:

DR. F. B. BOWMAN, Chairman.  
DR. T. G. HEATON, Secretary.

##### Pædiatrics:

DR. J. CARTER, Chairman.  
DR. J. E. DAVEY, Secretary.

##### Publicity:

DR. J. P. FAWCETT, Chairman.  
DR. J. W. TICE, Secretary.

##### Radiology:

DR. L. R. HESS, Chairman.  
DR. W. G. CORNETT, Secretary.

##### Registration:

DR. W. J. BROUGH, Chairman.  
DR. A. G. MCGHIE, Secretary.

##### Surgery:

DR. I. OLMSTED, Chairman.  
DR. O. W. NIEMEIER, Secretary.

### Annual Meeting

May 28, 29, 30, 31, 1929

Hamilton is recognized throughout the Dominion as possessing the ability and faculty for having most successful meetings. The Committee in charge of this year's Ontario Medical Association convention can assure the profession of Canada a well-balanced program covering almost every phase of medical endeavour. An intensive scientific program from 7.30 a.m. to 10.30 p.m. has been arranged.

For those wishing recreation ample facilities have been provided, such as golf, tennis, dancing, and class re-unions.

The Ladies Committee is preparing an excellent program of entertainment for the visiting ladies.

### Special Notices

The Committee on General Purposes, comprising the Officers and Board of Directors of the Association, Vice-Counsellors, Chairmen of Standing and Special Committees of the Association, and the President and one delegate per fifty members or part thereof of each affiliated Society, will meet at the convention headquarters, Royal Connaught Hotel, at 10.00 a.m. on Tuesday, May 28th. This notice will serve as the official intimation to all concerned. Delegates will please note the time. Officers of all affiliated Societies are requested to make arrangements for their representatives or their alternates to be present. It is most important that this Committee, which is the parliament of the Association, should be largely attended in order that the business of the Association may receive proper attention.

### Canadian Society for the Study of Diseases of Children

The Canadian Society for the Study of Diseases of Children will hold its annual meeting in the Royal Connaught Hotel, Hamilton, on Monday and Tuesday, May 27th and 28th. An excellent program is in course of preparation. Members of the Ontario Medical Association who are interested in pædiatrics are cordially invited to attend.

### Canadian Tuberculosis Association

The Canadian Tuberculosis Association has decided to hold its annual meeting in the Royal Connaught Hotel, Hamilton, during the week in which our convention is in progress. The scientific contributions from the Tuberculosis Association are being made to the general program of the Ontario Medical Association, the two notable visitors being Professor Roatta of Florence, Italy, and Professor Armand Delille of Paris, France. The Ontario Medical Association acknowledges with thanks the co-

operation of the Canadian Tuberculosis Association in connection with the program which has been arranged for this year.

### General Notes Regarding the Meeting

*Time*—Eastern Standard Time.

*Headquarters*—Royal Connaught Hotel, Hamilton.

*Messages and Mail*—All messages, telephone calls, and mail matter should be directed in care of the Ontario Medical Association, Royal Connaught Hotel, Hamilton, Ont.

*Registration*—The Registration Office will be found on the mezzanine floor in the Royal Connaught Hotel, and each visitor is requested to register immediately on arrival.

*Accommodation*—Rooms may be secured at the hotels approved by the General Committee, at the following rates:—

Single Rooms—\$2.50 to \$5.00.

Double Rooms—\$3.00 to \$10.00

Make reservations by writing to Dr. W. T. Connell, 433 King Street East, Hamilton, Ontario, Secretary of the Housing Committee. Please do this as early as possible.

*Entertainment*—Luncheons and dinners will be held daily. There will be plenty of golf, bowling, tennis, and motor drives. Arrangements have been made for dancing at the hotel each evening. Visiting doctors and their ladies are assured of a right royal welcome and a happy time in Hamilton.

*Round Table Dinner*—The Round Table Dinner, open to members only, will be held at 7.00 p.m. on Tuesday, May 28th. The program will be in charge of the Committee on Inter-Relations. From year to year this function has grown in popularity. A most interesting program is assured. Tickets—\$2.00, obtainable at the Registration Office up to five o'clock on the afternoon of that day.

*The Annual Dinner*—The Annual Dinner, to which the ladies are invited, will be held in the Royal Connaught Hotel at 7.00 p.m. on the evening of Wednesday, May 29th. Following the Presidential Address by Dr. E. A. McQuade of Trenton and a brief address by Professor Roatta, of Florence, Italy, the remainder of the evening will be spent in dancing.

*Alumni Dinners*—Thursday evening, May 30th, has been set aside for Alumni Dinners. Active committees are in charge of these functions. A special party is being arranged for the ladies. They will be joined by the doctors later in the evening, at the dance.

*Program*—What the Committee believes will prove to be a most interesting program has been arranged for both the Sectional Meetings and the General Sessions, details of which are published herein. In addition to this, early morning clinics will be given each day at the

hospitals by local members of the Association. Full particulars will be obtainable at the time of registration.

**Parking**—Arrangements have been made to provide ample parking accommodation for those who motor to the meeting. Full information at the Registration Office.

### Golf

The local committee on golf entertainment has made arrangements for our guests to play at all the local courses on payment of green fees and suitable introduction. This can be arranged for all courses.

It has been decided to provide a cup to be known as "The Hamilton Medical Society Cup" for annual competition at the Ontario Medical Association Convention. The executive of the Ontario Medical Association will be the trustees of this cup.

The cup will be played for in two flights. Flight 1 from handicap from 1 to 18 inclusive. Flight 2, handicap from 19 to 27 inclusive. No handicaps over 27. The winner of flight 1 will hold the cup for a year and receive a miniature replica as a permanent record. The winner of flight 2 also receives a replica as a permanent record. This year we have been permitted to play this competition over the course of the Burlington Golf and Country Club. It may be played at any time from the beginning of the Convention until 10 a.m. May 31st, when the cards must be turned in.

Suitable prizes are provided for runners up and others who distinguish themselves in both flights. Further details in the final program and at the registration desk.

The Burlington Golf and Country Club, the Chedoke Golf Club, the Glendale Golf and Country Club and the Grimsby Golf Club will accept your Ontario Medical Association badge in lieu of introduction by member.

Meals may be obtained at all golf clubs.

### PLAN TO ATTEND THIS MEETING

#### PROGRAM

##### Tuesday, May 28th

- 9.00 a.m.—Meeting of Board of Directors of Ontario Medical Association.
- 10.00 a.m.—Meeting of Committee on General Purposes of Ontario Medical Association.
- 2.00 p.m.—General Session.
  1. Dr. J. G. FitzGerald, Toronto.  
"The general practitioner and the practice of preventive medicine."
  2. Dr. W. B. Kendall, Gravenhurst.  
"Sanitarium routine."

3. Dr. Oskar Klotz, Toronto.  
"The growing importance of the diseases of middle life."

4. Dr. G. E. Richards, Toronto.  
"Radium treatment of oral carcinoma."

6.00 p.m.—Meeting of the Nominating Committee of the Ontario Medical Association.

7.00 p.m.—Round Table Dinner. (Royal Connaught Hotel). Program in charge of the Committee on Inter-Relations.

10.00 p.m.—Dancing.

##### Wednesday, May 29th

9.00 a.m.—Sectional Meetings.

11.15 a.m.—General Session.

1. Professor Armand Delille, Paris, France.

"Treatment of pulmonary tuberculosis in infancy and childhood by artificial pneumothorax."

2. Dr. K. G. McKenzie, Toronto.  
"An outline of the diagnosis and treatment of neuro-surgical lesions of the spinal cord."

12.30 p.m.—Luncheon. Short Business Session of the Association. (Royal Connaught Hotel).

2.00 p.m.—General Session.

1. Dr. G. S. Fahrni, Winnipeg.  
"Goitre."

2. Dr. A. G. Fleming, Montreal.  
"The general practitioner in public health."

3. Dr. J. R. Williams, Rochester, N.Y.  
"The clinical interpretation of diabetes."

7.00 p.m.—Annual Dinner. Presidential Address, Dr. E. A. McQuade.  
Professor Roatta, Florence, Italy.  
"The effect of fascism on private practice and state medicine."

10.00 p.m.—Dancing.

##### Thursday, May 30th

9.00 a.m.—Sectional Meetings.

11.15 a.m.—General Session.

1. Dr. John Osborn Polak, Brooklyn, U.S.A.  
"Controversial points in obstetrics and gynaecology."

2. Dr. J. F. Burgess, Montreal.  
"Causative factors in eczema."

12.30 p.m.—Luncheon. Short Business Session of the Association. (Royal Connaught Hotel).

2.00 p.m.—General Session.

1. Demonstration of Teaching Methods, School for the Deaf, Belleville, Ontario.
2. Dr. Walter Timme, New York.  
"The endocrinological aspect of some medical problems."
- 3.30 p.m.—Garden Party at Oak Bank, the home of Dr. and Mrs. James T. Rogers, James Street South.
- 7.00 p.m.—Alumni Dinners.  
Ladies' Party.  
Dancing.

#### Friday, May 31st

- 9.00 a.m.—Sectional Meetings.
- 11.15 a.m.—General Session.
1. Dr. J. G. Cunningham, Toronto.  
"The physician's opportunity in industry."
  2. Dr. Charles H. Mayo, Rochester, Minn.  
"The influence of nerves on abdominal viscera."
  - 12.30 p.m.—Luncheon. Short Business Session of the Association. (Royal Connaught Hotel).
  - 2.00 p.m.—General Session.
  1. Dr. G. W. Crile, Cleveland, Ohio.  
"The interdependence of the thyroid, the adrenals, and the nervous system."
  2. Dr. Duncan Graham, Toronto.  
"The differential diagnosis of superficial glandular swellings."
  3. Dr. Howard Fox, New York.  
"Cutaneous manifestations of syphilis." (lantern slides).

#### SECTION OF EYE, EAR, NOSE AND THROAT

*Chairman*—Dr. P. B. McFarlane;  
*Secretary*—Dr. H. Whytock.

#### Thursday, May 30th

- 9.00 a.m.—
1. Dr. G. L. Tobey, Boston.  
"Lateral sinus infection."
  2. Dr. D. E. S. Wishart, Toronto.  
"Removal of foreign bodies in the lungs."
  3. Dr. Geo. Hodge, Montreal.  
"The bronchoscopic diagnosis of carcinoma of the lungs and bronchi."
  4. Dr. J. P. Morton, Hamilton,  
"Nasal accessory sinuses."

#### Friday, May 31st

- 9.00 a.m.—
1. Dr. S. H. McKee, Montreal.  
"The relation of the clinical laboratory to clinical ophthalmology."
  2. Dr. Arnold Knapp, New York.  
"The choice of operation in glaucoma." (lantern slides).
  3. Dr. A. E. McDonald, Toronto.  
"Some pathological lesions of the eye." (lantern slides.)
  4. Dr. H. S. Gradle, Chicago.  
(Title to be announced later).

#### SECTION OF MEDICINE

*Chairman*—Dr. W. F. Nicholson;  
*Secretary*—Dr. J. Simpson.

#### Wednesday, May 29th

- 9.00 a.m.—
1. Dr. F. H. McKay, Montreal.  
"Acute infections of the brain."
  2. Dr. W. S. Lemon, Rochester, Minn.  
"The influence of hæmorrhage on the diagnosis of diseases of the chest."
  3. Dr. H. M. Young, Iroquois Falls.  
"An unusual case of traumatic asphyxia."
  4. Dr. William Magner, Toronto.  
"Jaundice."

#### Thursday, May 30th

- 9.00 a.m.—
1. Dr. W. R. Campbell, Toronto.  
"Indications for the use of insulin."
  2. Dr. J. A. Macgregor, London.  
"Visceral oedema."
  3. Dr. Neil McKinnon, Toronto.  
"Vaccination against smallpox."
  4. Dr. G. A. McLarty, Toronto.  
"Clinical manifestations of nervous syphilis."

#### Friday, May 31st

- 9.00 a.m.—
1. Dr. R. D. Rudolf, Toronto.  
"Hypertension."
  2. Dr. John Evans, Buffalo, N.Y.  
"Oxygen therapy."
  3. Dr. J. D. Little, Matheson.  
"The social history in physical diagnosis."



4. Dr. G. C. Hale, London.  
"The heart and the general practitioner."

### SECTION OF OBSTETRICS AND GYNÆCOLOGY

*Chairman*—Dr. W. Bethune;

*Secretary*—Dr. J. T. Green.

#### Thursday, May 30th

9.00 a.m.—

1. Dr. J. C. Masson, Rochester, Minn.  
"Pseudomyxoma peritonei."
2. Dr. H. D. Cowper, Welland.  
"Eclampsia."
3. Dr. M. E. Gorman, Lindsay.  
"Obstetrical emergencies in general practice."
4. Dr. A. G. Howson, Peterborough.  
"Ante-natal care."

#### Friday, May 31st

9.00 a.m.—

1. Dr. G. W. Mylks, Kingston.  
"Cervicitis."
2. Dr. Geo. Hooper, Ottawa.  
"Some phases of pelvic inflammation."
3. Dr. Ernest Williams, London.  
"Cancer of the uterus."

### SECTION OF PÆDIATRICS

*Chairman*—Dr. C. Carter;

*Secretary*—Dr. J. E. Davey.

#### Wednesday, May 29th

9.00 a.m.—

1. Dr. F. F. Tisdall, Toronto.  
"The elimination of deficiency diseases in Ontario."
2. Dr. R. I. Harris, Toronto.  
"Recent advances in renal surgery of childhood."  
Professor Armand Delille of Paris, France, will be present and will take part in the discussion.

### SECTION OF SURGERY

*Chairman*—Dr. I. Olmsted;

*Secretary*—Dr. O. W. Niemeier.

#### Wednesday, May 29th

9.00 a.m.—

1. Dr. Ernest Janes, Hamilton.  
"Osteomyelitis."
2. Dr. D. E. Robertson, Toronto.  
"Osteomyelitis."
3. Dr. John R. Parry, Hamilton.  
"Hypertrophy of the prostate."
4. Dr. Geo. E. Binkley, New York.  
"The treatment of inoperable carcinoma of the rectum."
5. Dr. Norman Shenstone, Toronto.  
"Tuberculous empyæma."

#### Thursday, May 30th

9.00 a.m.—

1. Dr. G. H. Stobie, Belleville.  
"Obstruction of the colon: cause, differential diagnosis and management."
2. Dr. A. Primrose, Toronto.  
"The treatment of intestinal obstruction by the general practitioner."
3. Dr. W. E. Gallie, Toronto.  
"The late results of the living suture operation for ventral and inguinal hernia."
4. Dr. H. Lyle, New York.  
"Disabilities of the shoulder-joint." (lantern slides).
5. Dr. A. L. Lockwood, Toronto.  
"A résumé of gastric and duodenal problems."

#### Friday, May 31st

9.00 a.m.—

1. Dr. H. B. Moffatt, Ottawa.  
"End-results of gastric surgery."
2. Dr. G. A. Ramsay, London.  
"Fractures pertaining to the motor accident."
3. Dr. R. A. McComb, Toronto.  
"Surgery of the ureters."
4. Dr. Herbert Bruce, Toronto.  
"The newer methods in the treatment of intestinal obstruction."
5. Dr. O. W. Niemeier, Hamilton.  
"The acute appendix."

## Medical Societies

### ACUTE INTESTINAL OBSTRUCTION

At the meeting of the Medical Society of London on February 25th, *Dr. J. Walter Carr* presiding, a discussion on the subject of "Acute intestinal obstruction" was opened by *Professor A. H. Burgess* of Manchester, President-Elect of the British Medical Association.

Professor Burgess began by saying that the present century had witnessed a great improvement in the surgical treatment of acute abdominal crises (he protested strongly against the inelegant term, which was of London coinage, "the acute abdomen"). So far as Manchester Royal Infirmary was concerned, the mortality from acute appendicitis in 1924 was one-twelfth of what it had been in 1900; the mortality from perforations one-seventh, and the mortality from acute intestinal obstruction one-half. He referred to the statistical compilation of cases of acute intestinal obstruction brought forward by Mr. H. S. Souttar in the Section of Surgery at the Annual Meeting of the British Medical Association in 1925, which was the largest and most authoritative series of statistics available. He hoped that Mr. Souttar would compile a further series and present it to the Winnipeg Meeting of the Association in 1930.

What was the reason for the continuing high mortality? The main reason was delay in the application of surgical treatment. The early signs of acute intestinal obstruction were not sufficiently stressed in the text-books, at least in those of rather older date. Far too much emphasis, for example, was usually placed upon faecal vomiting. This should never be regarded as a sign of acute intestinal obstruction; it was really an end-result. There was a tendency to wait for the development of faecal vomiting before diagnosing obstruction; in other words, to wait for a complete and perfect clinical picture. But there was only one hand that ever painted a complete and perfect clinical picture of a pathological condition, and that was the hand of death. The man who waited for faecal vomiting would never make a mistake in diagnosis, but rarely would he save his patient. Acute intestinal obstruction, Professor Burgess continued, might be either primary or secondary. It might come as a "bolt from the blue," or be simply a process engrafted upon a long-standing chronic condition. In distinguishing between a primary and a secondary obstruction there were two clinical features which were important. In secondary obstruction which had been grafted on to a chronic condition one frequently saw

the outlines of individual dilated coils and visible peristalsis passing along. Sudden acute obstruction always led to dilatation, with thinning of the wall, but never to visible peristalsis. Whenever the outline of dilated coils was seen, with the peristaltic wave passing along, one might be absolutely certain that it was a case of obstruction which had been in existence for at least several weeks. Sometimes, even when peristalsis was not visible, it was palpable. By keeping the hand over the abdomen the coil underneath could be felt alternately, hardening and softening. That condition of palpable peristalsis, again, indicated obstruction of some considerable standing. Primary acute intestinal obstruction varied in acuteness of onset. In general terms, the higher the obstruction—that is, the nearer the stomach—the more acute the symptoms. The early symptoms of acute primary intestinal obstruction were common to those of any other acute abdominal crisis; they were the symptoms which, years ago, were described by Sir Frederick Treves as "peritonism." They were of reflex origin, and had no localizing value whatever. In the case of acute intestinal obstruction, the pain was always referred to the epigastric region. The pain was often paroxysmal at first, becoming continuous as the obstruction became complete. The vomiting, like the pain, was at first of a reflex character; later on it was due to mechanical obstruction. The higher the site of obstruction the earlier the vomiting. It was most marked in the highest type of obstruction, the condition known as acute dilatation of the stomach. When the obstruction was low down, as in growths of the rectum or lower sigmoid, vomiting might be absent. The vomiting was at first gastric, later bilious, and presently assumed a faecal character; its persistence, however, was its most important feature. Distension of the coil above the site of obstruction must, of course, be present, but it was not always visible. If the case was seen early the distension might be localized and furnish a guide to the site. Vomiting and distension varied inversely to each other. In high obstruction, vomiting was marked, and distension not marked; in low obstruction the converse obtained. Distension was the most unfavourable feature; it made the operation much more difficult, and markedly increased the shock. The speaker pleaded for auscultation, which was of great value in diagnosis. Certain sounds, after a little experience, were quite unmistakable. By auscultation one could distinguish between the turbulence of the me-

chanical obstruction and the death-like silence of the paralytic. Rectal examination was of value also, especially in discovering the ballooning of the rectum which was so frequently made out when there was growth in the sigmoid region. The keynote of the position was the condition of the cæcum. If the obstruction was in the colon the cæcum must be distended; if in the small intestine, it must be collapsed. If obstruction were located definitely to the large intestine the cause was likely to be a malignant growth; 91 per cent of obstructions in the large intestine (leaving out strangulated hernia and intussusception) were due to this cause. If the obstruction were definitely made out in the small intestine the chances were 300 to 1 against the condition being a malignant growth. As to treatment, this, in definite mechanical obstruction, could only be operation. There were accessory treatments, of which the most valuable was gastric lavage. The nature of the operation would depend on the stage of the disease. In the early case, with little distension, and good general condition, an ordinary exploratory laparotomy might be done to discover where the obstruction was, and either remove it, short circuit it, or make an artificial anus, in that order of preference. In late cases, the less done, provided it was effective, the better. If the obstruction was located definitely to the colon he thought one should content oneself for the time being with a "blind" cæcostomy, which would, at any rate, relieve the obstruction. It was true that one was still left ignorant as to the exact site and cause, but this information could be obtained later; with a patient in the throes of acute obstruction all that mattered was to relieve the obstruction by the shortest and least shock-producing method. If, however, one was not sure that the obstruction was in the colon, an exploratory laparotomy must be done. While a "blind" cæcostomy was recommended for obstruction in the large intestine, a "blind" enterostomy was by no means to be done in the small, because of the extreme likelihood of leaving behind a strangulated coil, which would inevitably lead to the death of the patient.

Mr. H. W. Carson said that the higher the obstruction the more definite the symptoms, and the lower the obstruction the more definite the signs. In excluding hernia and intussusception Professor Burgess had done right, but unfortunately he cut off those cases in which the greatest advance had been made, and in which the death rate was much lower than in former years. Why did people die from intestinal obstruction? If a case were followed out to

its final stages it would be found that the patient suffered from an extraordinary condition of toxæmia, dying quite suddenly, almost unexpectedly, from what seemed to him poisoning of the heart muscle. He thought there was a good deal to be said for the theory that it was gas gangrene toxæmia, and he himself had had some extraordinary results from the use of anti-gas gangrene serum.

Mr. Zachary Cope commended anti-gas gangrene serum, which during the last three years had made a great difference in his own practice. He described some cases almost moribund which recovered. Undoubtedly in a certain proportion of cases anti-gas gangrene serum was a specific. He was himself an advocate neither of "blind" cæcostomy nor of extensive exploration; the procedure must be adapted to the individual case, and to an estimation of what the patient would stand, in which latter respect the determination of systolic and diastolic blood pressure was very useful.

In further discussion, Mr. T. H. Benians complained of the loose use of the term "toxæmia" by surgeons. These toxins were practically all of one type; the important thing was the route that they followed. Mr. Hope Carlton, in connection with what had been said about auscultation of the abdomen, mentioned a sign which he had learned abroad, that in primary peritonitis, either pneumococcal or streptococcal, a great increase in the conduction of vocal sounds from the chest through the abdomen was heard heard over the symphysis pubis. Dr. A. E. Roche, in selected cases of post-operative ileus, had seen dramatic results from pituitrin, given intravenously. Mr. Dickson Wright mentioned the importance of taking steps to overcome the alkalosis.

Professor Burgess, in reply, said that there was no real antagonism between the view that some of the symptoms were due to anærobic bacilli and that some were due to absence of bile. Both factors might be at work. The danger of treating with bile, however, as the exponent of the method, Mr. Brockman of Sheffield, had himself shown, was that though the symptoms cleared up the patient might die. The mechanical obstruction remained, and the disappearance of symptoms was apt to be deceptive. With regard to "blind" cæcostomy the speaker advocated this at the Annual Meeting of the British Medical Association in 1923, and he had seen no reason to change his views. After the patient had been "tided over" in this manner, one could, at leisure, obtain the necessary information.—*Brit. M. J.* 1: 398, Mar. 2, 1929.

## University Notes

### Toronto University

A new building, in which will be located the laboratories of Pathology and Pathological Chemistry, the Clinical Departments of Medicine, Surgery, and Obstetrics and Gynaecology, and the Banting and Best Chair of Medical Research, is in course of construction on the north side of College Street, opposite the Toronto General Hospital, with which it will be connected by an underground tunnel. The architecture is to be of the Georgian type, similar to that of the School of Hygiene and the Forestry Building. The structure will be of reinforced concrete, faced with red brick and trimmed with Indiana limestone. There are to be five stories above a basement and sub-basement.

The Donald C. Balfour Lecture in Surgery was delivered on Friday, April 5th, in Convocation Hall, University of Toronto, to the undergraduates in medicine, the members of the staff in medicine and the medical profession.

The Lecturer was Dr. Donald C. Balfour, the founder of the Lectureship, and a graduate in medicine of the University of Toronto in 1906, who is Professor of Surgery, University of Minnesota, and a member of the staff of the Mayo Clinic, Rochester, Minn. The subject of the lecture was "Surgical diseases of the stomach."

After the lecture, the Dean of the Faculty, Dr. A. Primrose, gave a luncheon at the York Club, at which honour was done the memory of the birthday of Lord Lister. Dr. Primrose briefly reviewed the work of Lord Lister and outlined the benefits that had accrued to surgery and mankind as the result of the discovery of antiseptics. The health of the guest of honour, Dr. Balfour, was proposed by Dr. W. E. Gallie. The Premier of the Province, Hon. G. Howard Ferguson, also spoke. Dr. Balfour responded to the toast to his health, touching on the high standing that medical education at his Alma Mater took at the present day. Among the prominent guests present, in addition to those mentioned, were Dr. F. LeM. Grasett and Dr. H. St. G. Baldwin, former house-surgeon with Lord Lister; Drs. A. McPhedran and Temple, Emeritus Professors; Prof. Malcolm Wallace, Principal of University College; Dr. Wallace Seecombe, Dean of the Faculty of Dentistry; as well as representatives from the Canadian Medical Association; the College of Physicians and Surgeons of Ontario, the Academy of Medicine,

the Board of Governors of the University, and the Hospital Boards.

E. STANLEY RYERSON

### Manitoba University

On April 4th, Premier Bracken, in presenting his budget to the Legislature, mentioned that in the estimates was included a sum of a million dollars for a new university building to be erected on the present site. This building is to meet the pressing needs of the university for additional class rooms. A committee of the house, comprising all groups, has been named to discuss the question of a permanent site, so that when a decision is reached it will be with practical unanimity. The Premier stated that he hoped that an agreement might be made with the Tuxedo Holding Company, so that the Tuxedo site as well as the Agricultural College site in St. Vital might be available, in case the growth of the province and the city warranted the selection of a site outside the city. In that event the new building would serve as a junior college. In answer to a question, Mr. Bracken stated that the proposals laid before the House coincided with the views of the University Board of Governors.

Dr. F. T. Cadham, Professor of Bacteriology, gave a most interesting address on "The bacteriophage," before the Scientific Club of Winnipeg on April 2.

### Edinburgh University

The schedule for the summer post-graduate courses in the University and the School of Medicine has just been issued. These comprise courses held during the vacation from July 15th to the middle of September. There are also certain post-graduate courses which are regularly provided during the ordinary university terms. Application for enrolment should be made to the Secretary, Post-Graduate Courses in Medicine, University New Buildings, Edinburgh.

### Manchester University

The Council and Senate adopted a resolution on March 5th asking the University Court to authorize conferment of the degree of Doctor of Science (*honoris causa*) upon Sir Ronald Ross, K.C.B., M.D., F.R.S., in recognition of his great work in the prevention of malaria. It is proposed to confer the degree on Founders' Day, May 15th, two days after Sir Ronald Ross' seventy-second birthday.



## Special Correspondence

**The Edinburgh Letter***(From our own correspondent)*

Edinburgh in some of its aspects stands alone amid the great historic cities of the world. The social meetings of its professional men have always given a welcome opportunity for a fleeting emancipation from the cares of daily life. Conviviality and clubs have flourished within its gates. In the eighteenth century the most famous gatherings were the Easy, the Cape, the Wagering and the Crochallan Fencibles, where Robert Burns was a frequent guest. These coteries met in such taverns of their choice as Fortune's, Clericleugh's, the Isle of Man, or Danny Douglas', where the members sought relaxation in "high jinks" under the benign influence of various carefully selected beverages. Most of the famous clubs of that past generation have departed with it, lingering merely as golden memories of a by-gone age, when life was less serious and hurried. But some still survive, and it argues a certain tenacity in our professional foundations that several of these are medical.

The most famous medical dining club is the "Aesculapian." Started in 1773, its membership consists of twenty-two, equally divided between the Fellows of the Royal Colleges of Physicians and Surgeons. Dr. Andrew Duncan (senior) who was responsible for successfully launching various schemes was the founder and first secretary for fifty-four years. Since its birth, except during the War years, the club has met four times a year to drink "*Floreat Res Medica. Vivat Veritas.*" The current topics of the day, formerly as now, form the chief topic of discussion, and many interesting reports of these conversations are recorded in the minutes. These minutes, handsomely engrossed, are kept in the College of Physicians. Bets were frequently made between the different members of the club and these are duly recorded. For example: "August 7, 1795, Dr. Rutherford bets a magnum of punch against Mr. Hay that Admiral Hottam, on or before the 15th July, had taken one or more of the French Fleet"; or, "December 5, 1796, Mr. Alexander Wood bets a magnum that there will be no French Invasion of Britain for six months." The members also contributed to the success of the meetings in song and story. On state occasions the dining table is decorated with the pocula of the club, to which medals bearing the names and coats of arms of all the members from the earliest days are appended. In glancing through the list of members, among other distinguished Aesculapians, we see the names of

Benjamin Bell, Alexander Monro, James Syme, James Young Simpson, Joseph Lister and Argyll Robertson. *Neque semper arcum tendit Apollo.*

Next in order of venerable antiquity comes the Harveian Society, which was instituted in 1782. This was also a child conceived in the fertile mind of the versatile Dr. Andrew Duncan. The object of this society, as laid down in its laws, is "to commemorate the discovery of the Circulation of the Blood and to cherish a kindly feeling among the members of the Medical Profession." The Society endeavours to attain this ideal by dining together annually. At this festival the Harveian Oration is delivered, and though, with the passage of time, the theme might have been expected to have worn a trifle threadbare, a reference to former addresses is enough to show that the high standard that has always marked these discourses is fully maintained. This club which meets only once in the year has a large membership. Minutes of the meetings are kept, and these, in the hands of the present secretary, are an unfailing delight to the members.

Another club which has also celebrated its centenary is the Medico-Chirurgical Club. This society came into being in 1822. Its membership like that of the more sedate Aesculapian Society is limited to twenty-two who dine twice a year in March and November. Originally founded as a supper club it met for many years in the "Douglas", the hotel where Sir Walter Scott spent his last night in Edinburgh. Believing that brevity is the soul of wit, all speeches are limited to three minutes, and the evenings are spent in song and story. Many of the songs and poems found in the pages of "*Colleges Lays*," "*Nungæ Canoræ Medicæ*" and the other Edinburgh collections of verse, were first sung or recited at the Medico-Chirurgical Club. Andrew Wood, Douglas MacLagan, James D. Gillespie, John Smith, John Batty Tuke, Alexander James and William Fordyce, all medical poets, have been members of this sprightly, enthusiastic society. Here the atmosphere is entirely clubbable, and the meetings loose forth a feast of reason and a flow of soul. *Dulce est decipere in loco.*

The Old Residents' Club is a flourishing organization composed of former house-physicians and surgeons of the Royal Infirmary. It promotes an annual Rugby Football Competition for the "Old Residents' Cup" among the students attending the wards of the various teachers in the Infirmary. The lecturer, whose

students are successful in securing the trophy, has the privilege of paying for a dinner for the winning team. The club dines once a year. The president is usually selected from among the ex-chiefs of the Royal Infirmary. As is the case in the Harveian Society, while many of these presidents are men of eminence, academic distinction alone is not enough to fit a person for the presidency of the club. Clubs, like constituencies, have their favourites, and while the country practitioner may and has more than once attained to the chair, to many a man of wide professional repute has not been accorded the high honour of presiding at the Harveian or the Old Residents' Club.

The Royal Colleges Golf Club, confined to Fellows of the "Physicians" and the "Surgeons", holds its annual meeting in June at one of the golf clubs in East Lothian, and brings a day of golf to a termination by dining in the club house in the evening. The Medical Curling Club, meets once a week in the evening at the Haymarket Ice Rink, and closes its season with an afternoon match against some other club. The day ends in the orthodox fashion with a curler's supper with boiled beef and greens. The standard of curling is high in this medical club; it was the only Scottish curling club which was successful in drawing with the Canadian Curlers when they visited this country two years ago.

Three very successful social clubs are the Octogenarians, the Nonagenarians, and the Centenarians. These are composed of graduates in the different decades 1880-89, 1890-99, 1900-1909, respectively. Unlike the other clubs mentioned above, which we hope will go on for ever, the constitution of the decade clubs must tend to be a disappearing factor in their existences. There can be no new recruits and with the passage of years the membership will gradually fall off. The fact that they are doomed to ultimate dissolution has no effect upon the harmony and cheerfulness of their gatherings, and it would appear that their motto is, "eat, drink and be merry, for tomorrow we die." In all three clubs the fashion is the same. They meet in summer for golf and in winter an annual dinner is held.

The Overseas Club is a successful club that dines once a year on a Friday night before an International Rugby Match. Its membership is limited to those who served overseas during the War. The President is chosen from among the senior men who saw foreign service. As with the ten year clubs it must also tend to disappear. Meantime at its annual "Waterloo Banquet" it celebrates the very excellent part the medical profession played in the war and its slow but inevitable disappearance does not weigh unduly upon its shoulders. Perhaps before then there may be another war.

These medical clubs of Edinburgh meet year by year in their due seasons. Preserving each its unique characteristics, its individuality and its special features, they fulfil a most useful rôle in promoting harmony, good-fellowship and a broad humanity among the members of the medical profession in our dour northern capital.

GEORGE GIBSON

23 Cluny Terrace, Edinburgh.

### **The London Letter**

(From our own correspondent)

*Moonshine about Sunshine.*—Under this attractive heading, culled from a highbrow weekly, can be ranged some very pretty controversial arguments set on foot by the Medical Research Council's Annual Report. It is an undoubted fact, supported by scientific evidence, that ultra-violet light can cure rickets and lupus. Outside of this there is very little evidence that it can cure anything else, and as far as rickets is concerned it is pointed out in this report that ultra-violet light does at a cost of three to four shillings what cod-liver oil does for less than a penny. Of course, there is a big body of opinion, professional and otherwise, ready to testify to the great value of artificial sunlight for all sorts of diseases, and one can not get away from the fact that its applications produce an effect of well-being, possibly replacing for the more anchored classes what a trip to the south of France at this time of year does for the more leisured rich. Nevertheless, in carefully controlled experiments on school children by Dr. Dora Colebrook no evidence could be found of any gain in weight, of lessened anæmia, or of better resistance to infective illnesses in the group of children treated with ultra-violet light as compared with a similar group of untreated children. The conditions of the two groups of children were equalized as far as possible, but with entirely negative results, even as to the much vaunted betterment in "spirits" alleged to be produced by artificial sunlight. Obviously such results have a very important application, for many public bodies have spent large sums of money on establishing "light clinics." It seems a curious fact, explicable only on a political basis, that it is quite allowable to give poor children "light" but quite immoral to see that their diet is correct or sufficient in quantity or quality.

*The Crime of Adiposity.*—Ever since the days of Banting, the undertaker of London, the popularity of anyone who can reduce the weight of fat people has been assured. It is the practice of an out-patient physician at a London hospital to tell his fat patients, of whom he sees a great number, that in any well governed community

they would be put into prison! It is further an undoubted fact that a great many ills, to which especially the female flesh is heir, would be put right by avoiding a troublesome adiposity. With the present day fashion for the slim outline it might be felt that there was less danger than usual with regard to fat, but a well known theatrical producer has announced that he wants his chorus girls to be plumper in the future, and a career of reckless and unbridled adiposity seems to be encouraged in certain quarters as a result of his campaign. A warning note was sounded in the medical journals under the attractive heading of "Too, too solid flesh" and recently Dr. Edmund Spriggs has given a valuable address on the rôle of starvation in treatment in which he pointed out that war-time experiences indicated that most people eat too much and that health is compatible with a lower diet than we usually enjoy. The position is an important one at the moment. Are we to continue the slim figure with its healthy outlook, or are we to follow the chorus girl and provide more work for the doctor in the future?

**Bad Writing.**—A correspondence took place last month in the columns of the *Times* on bad hand writing. This coincided with an unfortunate occurrence at a London infirmary when a nurse misread a prescription and administered a fatal overdose of a powerful narcotic. The doctor's handwriting, so it is said, is becoming worse and worse, and panel committees now deal out admonishments to practitioners whose handwriting is described as "illegible and villainous" in

a recent report. The symbols used also come in for abuse and the ounce and the drachm are frequently confused. It is probable that much of the agitation in the press is based upon the growing desire of the public to know a good deal more than is good for it about health and disease, and it is possible that having been told by the health expert all there is to know about, say, kidney disease, it resents not being able to read exactly the prescription given for that complaint. At any rate the dispensing chemist stands as a bulwark between the doctor and the patient who may have been alarmed by the recent controversy.

**British College of Obstetricians and Gynaecologists.**—As an outcome of the reiterated complaints of the alarming increase in maternal mortality rates it has been decided to attempt the formation of a British College of Obstetricians and Gynaecologists. Provisional articles of association have been drawn up by most of the leaders of this branch of the profession and the immediate developments are awaited with interest. A Fellowship and a Membership are to be established and it is hoped that co-operation with existing bodies will be possible. The new scheme is criticized in certain quarters, but it does seem to mark a determined effort to get teaching and examining onto a firmer basis, and, as such, it is viewed with approval by those who have at heart the very necessary reduction in maternal mortality rates.

ALAN MONCRIEFF

London, April, 1929.

## Letters to the Editor

### CANADIAN EMIGRANTS TO THE UNITED STATES

#### To the Editor:

It has been brought to my attention that many Canadians emigrating to the United States are held up at the border because they are not in possession of proper medical certificates, which must absolutely be filled out in accordance with Section 3 of the Visa Documents required for Immigration by the United States Immigration authorities. This Section reads as follows:—

"It will be necessary that immigrants present medical certificates, in duplicate, showing completely, correctly, and conclusively their physical condition, with special reference to tuberculosis, loathsome or dangerous contagious diseases, of mental or physical defects which will affect the ability of the alien to earn a living. Certificates must be prepared under doctor's printed letterhead."

It might be well to insert a note to this effect in the Journal.

Yours faithfully,

T. C. ROUTLEY, *General Secretary, C.M.A.*

#### To the Editor:

#### A CORRECTION

I should like to draw your attention to an error appearing in the editorial upon the Experimental Investigation of Tuberculosis in Canada, in the January number of the *Canadian Medical Association Journal*. On Page 48, you quote me as reporting that microscopical tuberculous lesions are found in the kidney in the "no lesion reactors" in cattle. It was not in the kidney that Dr. R. M. Price demonstrated these small tuberculous foci in cattle, but in the lymph-nodes, particularly those of the mesentery. We have never uncovered minute tuberculous processes in the kidney in this group of animals.

The confusion may have arisen through another report which I presented before the same Committee on the work of my associate Dr. M. A. Shipley, who demonstrated the presence of microscopic foci of tuberculosis in the kidney

in individuals (human) who gave no clinical evidence of renal tuberculosis, but who possessed gross tuberculous foci in other organs. This work of Dr. Shipley presented evidence that when tubercle bacilli appear in the urine,

tuberculous lesions are to be encountered in one or both kidneys.

University of Toronto,  
April 4, 1929.

Yours very sincerely,  
OSKAR KLOTZ

## Topics of Current Interest

### VACCINATION AGAINST TUBERCULOSIS BY MEANS OF BCG.

The Health Committee of the League of Nations, at its 12th session, considered a proposal received from Prof. Calmette that it should examine the results of vaccination against tuberculosis by BCG, and authorized its President to convene a meeting of experts to draw up a program of studies necessary to evaluate the results, both immediate and remote, of vaccination with BCG, in laboratory animals, cattle and man.

A conference was accordingly held in the Pasteur Institute in Paris, from 15th October to 18th October, 1928, and was divided into three commissions composed of bacteriologists, clinicians and veterinary surgeons respectively.

The conclusions reached by these commissions are the following:—

#### 1. BACTERIOLOGICAL COMMISSION

The bacteriologists attending the meetings of the Commission agree unanimously that experimental results justified the conclusion that BCG is a harmless vaccine.

Prof. Nobel, however, maintains that in exceptional conditions BCG is capable of producing fatal tuberculosis in laboratory animals.

The Commission considers that the data already published regarding experimental work on laboratory animals, clearly justifies the conclusion that BCG does not give rise to progressive tuberculosis.

In order that such studies may be comparable and capable of furnishing definite conclusions at a subsequent meeting, the Commission considers that it would be useful to investigate the following questions:—

1. Methods of maintaining the fixed properties recognized as characteristic of BCG.
2. Methods to be followed in studying the influence of passage through animals of BCG.
3. Methods to be adopted in carrying out immunising experiments: determination of the doses of BCG and of virulent bacilli to be used in such experiments; the adoption of strains of known virulence for the test inoculations.
4. Methods to be adopted in the studies on variability and dissociability of BCG.
5. Methods to be adopted for the comparative study of the histological changes produced

by inoculation of BCG and of virulent tuberculosis bacilli.

6. The necessity of limiting the preparation of BCG (culture, preparation and distribution of the vaccine emulsions) to institutes of recognized scientific standing.

#### 2. CLINICAL COMMISSION

The following conclusions are drawn from the documents studied by the Commission.—

1. That BCG administered by mouth to infants within the first ten days of life, and by subcutaneous inoculation in other children and adults, is incapable of producing virulent tuberculous lesions.

2. That vaccination by BCG produces a certain degree of immunity against tuberculosis.

However, further research over a longer period and carried out in a uniform manner with special regard to the morbidity and the mortality from tuberculosis among persons of different ages and in different environments, are necessary to enable the Commission to pass final judgment on the value of antituberculosis vaccination with BCG.

To this end, it requests the Committee of Expert Statisticians of the League of Nations to indicate the best methods for collecting and analysing data concerning the morbidity and mortality of infants, both vaccinated and unvaccinated.

With the object of obtaining a documentation as uniform and as free from criticism as possible, the Commission prepared a draft case record form for use in connection with children living in a tuberculosis environment, and to be used by the organizations carrying out these studies.

The Commission has also prepared a draft of a clinical case record sheet for use in connection with children vaccinated and deceased, and which gives indications for the post-mortem information necessary for subsequent studies.

The Commission considers that such studies should be entrusted to a limited number of dispensaries and hospital clinics. The documents collected by such organizations according to the method laid down by the Committee of Expert Statisticians, and with the form and protocol adopted, will be collected and ana-



lysed by the Health Section of the Secretariat of the League of Nations for consideration at a later meeting of this Conference.

The Commission has requested the Health Committee to invite such organizations to undertake this work as it may suggest.

The Commission considers that the conclusions adopted by the Commission of veterinary surgeons and bacteriologists still further justify the recommendations made above.

### 3. VETERINARY COMMISSION

#### *Prophylaxis of Bovine Tuberculosis*

1. The experimental facts published and the unanimous opinion of practitioners who have used the BCG in cattle, justify the conclusions that vaccination carried out according to the technique of Calmette and Guérin, among bovines, is a perfectly harmless procedure.

2. Similar experimental data and published observations with regard to the use of BCG among bovines demonstrates that this strain of bacteria confers definite immunity against both experimental and natural tuberculosis infection. These recognized "pre-immunising" (pre-munisantes) qualities justify and encourage the extension of the experimental use of BCG in the prevention of bovine tuberculosis. Such work should be carried out in different countries in accordance with the international experimental Protocol; a copy of which is attached, under the control of the official veterinary services and of competent bacteriological and pathological authorities in close touch with the Commission set up for the study of this problem by the Health Organization of the League of Nations. Wherever possible, a strict experimental method should be adopted. (Protocol I.)

On the other hand, a less exacting method may be used to suit the requirements of cattle breeding, providing the work is carried out under official and constant control. (Protocol II.)—Reprinted from *Health* 7: 12, Feb. 1929.

### ICTERUS NEONATORUM

The origin of the so-called physiological jaundice of the newly born presents a problem which is still to a large extent unsolved, while a constant succession of theories has kept alive the interest which has been taken in it by the physiologist and the physician. Since the days of Morgagni, who attributed it to plugging of the bile-duct by milk curds—a view amended by Virchow to a similar action of mucous plugs—a series of explanations have been propounded of which few have stood the test of time. In recent years explanations which refer the origin of the jaundice to the alimentary

tract have receded from favour, the field being occupied by two principal theories—namely, hæmatogenous and hepatogenous origin. The balance of opinion, at any rate in this country, has favoured the former view, in some degree as a result of the confirmation given to it by the van den Bergh reaction. Nevertheless the hepatogenous view, in favour of which A. Yllpö has adduced much cogent reasoning, has not been without its supporters. Prof. P. Lereboullet in a recent number of the *Paris Medical*, Nov. 3, 1928, suggests in an interesting review that the hæmatogenous and hepatogenous theories are by no means so mutually exclusive as has been represented by their respective exponents. From the clinical aspect Prof. Lereboullet reminds the reader of three important facts: (1) that the icterus is preceded by an erythrodermic phase; (2) that the fæces are not decolourised; and (3) that the jaundice is in most cases acholuric. Its occurrence is especially frequent in twins, and in infants born prematurely or after difficult labour. The most important fact established by experiments is that the blood of the infant at the moment of birth contains bile; there is a physiological bilirubinæmia independent of the subsequent development of jaundice. It is also found that the blood of the cord contains less bile than that of the fetus, and the maternal blood contains three times less bile than the blood of the cord. Hence it may be inferred that the blood returning from the placenta loses some of its bile-pigments in the maternal circulation, and that from the point of view of the fetus the cord represents the main path of excretion of bile-pigments, only a portion passing into the meconium. It is undoubtedly true that a tendency to hæmolysis is present in the first few days of life; that is seen in the erythrodermic phase which so often precedes jaundice and which may be attributed to hæmoglobinæmia. These two factors, hyper-hæmolysis and hypercholæmia, are therefore present in normal infants after birth. At birth the ligature of the cord puts an abrupt termination to the path of excretion of the greater part of the fetal bile. As a result of this, the bile content of the blood rises, just at the moment when the existing number of the red corpuscles is becoming in excess of the infant's requirements. The kidneys have not as yet acquired the faculty of excreting bile, as is shown by the acholuric type of jaundice. The liver is in process of acquiring this faculty, but jaundice will occur in infants in whom it is not acquired with sufficient rapidity to keep pace with the hypercholæmia occasioned by ligature of the cord and accentuated by hæmolysis.—*The Lancet* 1: 197, Jan. 26, 1929.

### THE PIG AND UNDULANT FEVER

Milk has been charged so often with complicity in the spread of disease that the eyes of the public health authorities are always focused on this product, which is on the one hand a peerless food and on the other a splendid medium for the transmission of infection. The germs of tuberculosis and of septic sore throat may be conveyed directly from diseased cows to the consumer. Carelessness on the part of those who handle milk may cause the fluid to be contaminated with the germs of typhoid, the infectious agent of scarlet fever and the microbial excitants of diarrhoeal diseases and enteritis. To these has lately been added the menace of what was once heralded as the rare Malta fever, incriminating the milk of goats disseminating *Brucella melitensis*, but now frequently encountered in the analogous illness due to the bacillus of contagious abortion in cattle. Undulant fever, the newer descriptive designation of the human disease, was recently referred to<sup>1</sup> as an occupational disease which can no longer properly be labeled by reference to a restricted geographic area. Perhaps even the milk-yielding goat and cow can be absolved from responsibility for every case. Reports like those of King<sup>2</sup> regarding the concomitant occurrence of undulant fever in man and contagious abortion, or infection with *B. abortus*, in dairy herds do not exonerate the cow. But the careful study of a few Connecticut cases at the Yale University School of Medicine by Blake and Oard<sup>3</sup> tends to incriminate the pig on some occasions. In the first patient the infection was shown to be due to *B. abortus*, probably of the porcine variety. In this case the disease was presumably contracted through handling fresh pork products in a slaughter house. In a second case it was likewise found that the infecting organism was in all probability *B. abortus* of the porcine variety. Blake and Oard, realizing the importance of exact bacteriological investigations in differentiating the possible sources of infection, believe that it is unsafe to conclude that undulant fever occurring in the United States is usually due to drinking unpasteurized milk infected with *B. abortus* (bovine). While it is possible that this may be so, the facts in the case should be thoroughly established by the detailed study of all strains of the melitensis-abortion group isolated from patients. According to Blake and Oard, this should include agglutinin-absorption tests, guinea-pig inoculation tests, and study of the carbon dioxide requirements and of dextrose utilization. The evidence so far obtained points, they state, toward the possibility that the porcine rather than the bovine variety of *B. abortus* is the usual cause of undulant fever in this country.—*J. Am. M. Ass.* 92: 901, March 16, 1929.

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- 2 KING, W. F., Control of Public Milk Supplies, *J. Am. M. Ass.* 91: 552, Aug. 25, 1928.
- 3 BLAKE, F. G., AND OARD, H. C., Undulant Fever: A Report of Three Cases Occurring in Connecticut, *Yale J. Biol. & Med.* 1: 128, Jan. 1929.

### THE PREVAILING ILL HEALTH AND THE PRACTITIONER

The answer to the question of how the "average" physician should be trained and what he may reasonably be expected to know to meet the needs of the public may be sought, in part at least, in the records of actual practice. What are the actual demands that are made by persons for medical attention? This is an inquiry to which the Commission on Medical Education, under the chairmanship of President Lowell of Harvard University and sponsored in part by the American Medical Association, has devoted earnest consideration. Its preliminary report, issued in 1927, outlines the experience of a large group of recent graduates in medical practice in communities of 50,000 or less in twenty-four states and two provinces. A study of their activities reveals that most of the illnesses are not difficult of diagnosis or treatment, and probably 90 per cent can be cared for by a competently trained practitioner with modest equipment and facilities. About 75 per cent of the office visits were for minor surgery, general medical and venereal diseases, and upper respiratory infections. About 90 per cent of home visits were for infections of the respiratory tract, general medical and contagious diseases, obstetrics and minor surgery. More than 90 per cent of the illnesses are of types which cannot be controlled on a community basis but are problems of individual patients. Less than 10 per cent are diseases against which public health efforts are mainly directed. Incidentally, this fact is an index of the growing efficiency of public health efforts and also emphasizes the necessity of treating the patient as well as the disease.—*J. Am. M. Ass.* 92: 986, March 23, 1929.

### DISEASE IN INDUSTRY

Nervousness or nervous diseases are a frequent cause of sickness absence in industry, according to studies made by Dr. Millais Culpin, of London Hospital. Apparently these conditions have little or no relation to the work or working conditions.

Seven of the first twelve cases on the annual sickness records of one large firm showed losses ranging from 94 to 278 days because of nervous diseases. These latter were listed as nervous

breakdown, nervous exhaustion, dyspepsia and nervous debility, heart and nervous overstrain. In this particular firm, the workers are reasonably well paid, working conditions are hygienic and the workers are not driven at their work. In firms where the conditions are less pleasant and the work is strenuous, the absence rate for diseases of this type is lower.

Dr. Culpin likens this type of nervousness to that which appeared as shell-shock during the war. Its basis is emotional, not physical, although the physical symptoms are very real to the patient. The worker's liking for his work plays a large part in determining the amount of absence due to nervous trouble. Among many workers examined, those who liked their work had very few absences due to their nervousness, even though they showed on examination the same kind and degree of nervous disease as workers with many absences who disliked their work. In the latter type the nervousness became the means for emotionally unstable people to escape an unpleasant situation.

If nervous people were forced to work or starve, many would work and be saved from nervous breakdown to which they otherwise succumb. Others would starve and some might find a speedier end.—*Science Supplement*, Nov. 1928.

### SCIENTIFIC LITERATURE

The latest edition of Mansfield Clark's classical work on *The Determination of Hydrogen Ions* (London, Baillière, Tindall and Cox, 1928) is full of valuable information, but there is nothing in the book of greater general interest to scientific workers than the figure, inserted in the preface, which shows the time distribution of the references contained in the bibliography. This figure shows that in 1910 about fifty papers were published on the subject of hydrogen-ion concentration, and that this number has doubled every four years, and now approaches fifteen hundred per annum. The curve suggests that the two thousand level will be reached in another five or six years. As the author says: "The situation has made obsolete some of the old ideals of scholarship. It has made trivial all available facilities of library, abstract, and review. It has made the monograph almost futile. It has made ridiculous him who claims to combine thorough investigation with thorough *re-search*." In writing this Professor Mansfield Clark conveys the experience and opinions of all who are compelled to cover popular fields of scientific research. Undoubtedly scientific workers are threatened with the necessity of choosing whether they will spend their energy and time in keeping up with the literature and writing monographs,

or whether they will devote themselves to original research. Unfortunately, however, it is only those with a first-hand knowledge of a subject who can write a monograph that is worth reading, because such persons alone can sort out the grain from the chaff. It is a pity that Professor Mansfield Clark did not supplement his interesting curve by a second curve showing the number of papers per annum that were of any real importance; it is safe to say that the two curves would have followed very different courses.

There is no doubt that scientific workers will have to depend more and more on authoritative monographs for an account of the existing knowledge in any subject, and those who devote themselves to the tedious task of producing such works deserve the gratitude of their fellows. The flood of scientific literature is, however, being augmented unnecessarily, and it could be checked if public opinion in the world of science would show its firm disapproval of certain practices. The publication of substantially the same article in several different journals, and possibly in different languages, is, to say the least, a misdemeanour. Medical science in particular suffers from this practice. We have heard the suggestion that it would be checked if contributors were charged a special high advertisement rate for all articles that were found to have appeared elsewhere. The habit of estimating the merits of candidates for scientific posts or the activity of university departments by the weight of published material is also responsible for a large amount of over-publication, and this would cease if attention were paid to quality and not to quantity.

Finally, there is the problem of publishers who run scientific journals for profit, and aim at producing the greatest possible number of volumes a year, regardless of the quality of the articles published therein. This evil is not prevalent in this country, but it is rampant in Germany. The funds and shelf space of libraries are exhausted by certain "wastepaper basket" journals, whose volumes increase yearly in geometrical progression. There is only one remedy for this—namely, the organized boycott of journals which do not maintain a certain critical standard of editorship. Such a boycott has been mooted before now, but it has failed because there are so many libraries in Europe, and particularly in America, to whom expense is of less consequence than the completeness with which they cover the literature of science. The exploitation of scientific institutions in this manner will only be prevented when it is generally recognized that the encouragement of a scientific journal that maintains no critical

editorship is not merely a waste of money, but actually handicaps the progress of science.—*Brit. M. J.* 1: 514, 1929.

#### CONTRACEPTIVE INSTRUCTION

"Has the medical profession definite responsibility with respect to contraceptive instruction?" is the question asked editorially in the *New England Journal of Medicine*.\* The editorial goes on to say that patients suffering from serious diseases, in whom pregnancy may lead to serious operation or death, are merely

\* *New England J. of Med.* 200: 502, March 7, 1929.

told not to become pregnant, but no detailed advice is given to them and no "occlusive" pessaries are placed.

The time has come, the editor goes on to say, for this subject to be brought out into the open and studied scientifically. Is it not a more reasonable and better practice to give to patients the best contraceptive advice possible than to advise them to submit to a therapeutic abortion, or to a laparotomy for the purpose of sterilization either by the excision of tubes or hysterectomy, as is sometimes done? It is the editor's opinion that clinics for contraceptive advice should be established not as separate entities, but as a part of well established gynaecological or post-partum clinics.

### Abstracts from Medical Literature

#### MEDICINE

**La Fièvre ondulante d'origine bovine en France. (Undulant Fever of Bovine Origin in France).** Ledoux, E., *Révue de Médecine* 45: 1189, Sept. 1928.

Fifteen departments in France have cases of undulant fever in them at all times. M. Charles Nicolle, recently a recipient of the Nobel Prize, is quoted as saying that undulant fever is "the malady of the future." Up to the present time most of the cases in France have been traced to infected goats and sheep. The tendency at first, therefore, was to deny that undulant fever in man had anything to do with the infectious abortion of cattle, though it did have a relation with the same affection as it occurred in sheep and goats. Now, the association of undulant fever in human beings with infectious abortion in bovines has been recorded so often, notably in Rhodesia and Italy, that no doubt can exist upon the matter.

The author gives a résumé of three cases of human undulant fever reported in France. These cases, as one reads them, leave much to be desired, in that there was no biological control in the first case, and in the two others complete bacteriological confirmation is lacking. In the third case the agglutination and intradermal tests were positive. In spite of this, however, there can be little doubt as to the nature of the infection, as all the patients had been concerned in handling cases of bovine infectious abortion. The author thinks that attention should be directed to the danger of human infection through the medium of cattle, even if such cases are exceptional.

A. G. NICHOLLS

**The Hereditary Type of Angioneurotic Oedema.** Dunlap, H., and Lemon, W., *Am. J. M. Sc.* 177: 259, 1929:

This article adds another family which is

suffering with this strange malady to the twenty-one already recorded in the literature. The history of the disease in this family extends over four generations, comprised of 24 persons. Of these, 11 have probably been affected, and six of those affected have died suddenly, presumably from the disease. Two died of undoubted oedema of the glottis; two of obscure intestinal colic, probably oedema of the intestinal mucosa; one of heart disease; and one of dropsy. The tragic results of this disease are all too well illustrated in this as well as in other families which have been afflicted with it, oedema of the glottis being the usual cause of death in a large number of the cases.

(Comment by reviewer).

When a family suffering with this condition is found by a physician, the members should be warned of the marked hereditability of the disease, and of the fatal outcome in many of the cases. Even in those cases which do not succumb to the disease, there is imminent danger of immediate death every time an attack occurs. Patients as well as their families should be educated with respect to this condition.

MADGE THURLOW MACKLIN

**The Blood Platelets in Splenic Anæmia.** Evans, W. H., *Lancet* 1: 277, Feb. 9, 1929.

A study of 19 cases of Banti's disease with special reference to the behaviour of blood platelets supports many of Rosenthal's contentions regarding this clinical entity. It is shown that a great proportion of the cases falling into this classification can be divided into two groups: (1) those having diminished platelet counts; and (2) those having counts at or above the normal level. The first group shows the tendency to hæmorrhage which is considered to be so characteristic of this disease and is greatly benefited by splenectomy, the platelets rising far above normal post-operatively and later resuming a



normal level, with disappearance of the hæmorrhagic manifestations. The second group demonstrates the tendency to thrombosis, especially of the portal system of veins, and seems to show no such results following splenectomy as to warrant this operation.

Theories as to etiology are discussed, but not proved by the findings in this series. Splenectomy should be recommended and good results expected only in those cases of the thrombocytopenic group; it may be a grave menace to the life of patients who show a thrombocythæmia.

J. B. ROSS

**Lead Poisoning from Lead Piped Water Supplies.** Wright, Wade., Sappington, C. O., and Rantoul, Eleanor, *J. Indust. Hyg.* 10: 234, Sept. 1928.

In the Industrial Clinic of the Massachusetts General Hospital it was found that nearly 11 per cent of cases of lead poisoning were of non-industrial origin, lead piped water supplies, home distilled alcohol, home made wines. For this, and other reasons, it seemed apparent that non-industrial lead poisoning was of considerable public health importance. A survey was undertaken to determine the degree of contamination of water supplies with lead, and the incidence of lead poisoning from this cause throughout the State of Massachusetts. One hundred and two water sources were studied, of which seventy-two were used by cities. All the water examined contained lead. Two hundred and fifty-three persons using these waters were examined at random, and of these sixty-three proved to be suffering from definite lead poisoning. The criteria for the determination of lead poisoning were the objective signs of the Burtonian line, or stippling, and two subjective symptoms. Poisoning occurred among fourteen persons, ingesting an amount estimated as low as 0.1 mgm. of lead daily. This finding does not bear out Legge's figure of 1 mgm. a day as being the dangerous dose. It is, of course, possible that the analysis of the water did not represent average conditions. This study emphasizes the hazard of lead water piping. It is probably significant, however, that the Massachusetts water is, on the whole, very soft, and quite frequently contains a rather large amount of dissolved carbon dioxide.

F. G. PEDLEY

**A Roentgen Ray Study of a Group of Long-Distance Runners.** Farrell, J. T., Jr., Langan, P. C., and Gordon, B., *Am. J. M. Sc.* 177: 394, March, 1929.

This investigation concerns 23 athletes, long-distance runners who competed in a foot race from Los Angeles to New York. The runners averaged 41 miles a day for 84 consecutive days. The study was made three days after the end of

the race. Stereoscopic plates of the lungs and heart were made at distances of 4 and 7 feet respectively. In 13 of the 23, the heart was smaller than normal. In 5 it was within normal limits, and in the remaining five it was increased. According to the cardiothoracic ratio, however, only one heart was enlarged. The lungs appeared normal in all cases. The bones and vessels showed no changes worthy of note. The authors conclude that the immediate effects of long distance running are inconsequential.

E. S. MILLS

**The Value of Phenylhydrazine in the Treatment of Polycythæmia Vera.** Hurwitz, S. H., and Levitin, J., *Am. J. M. Sc.* 177: 309, March, 1929.

The authors point out that the improvement in the blood picture and symptoms which occur after phenylhydrazine administration are transitory and purely palliative. They caution against overdosage of the drug, which produces anæmia and liver damage. Since the effect may vary in different individuals it is important to make careful observations on the blood during treatment with the drug, and to remember that the hæmolytic effect may persist for a time after its removal. They report the clinical course of a case under treatment with phenylhydrazine.

E. S. MILLS

**The Relationship of Hæmolytic Streptococci to the Spread of Scarlet Fever.** Moriwaki, G., *J. Prev. M.* 3: 1, Jan. 1929.

The writer produces statistics covering the records of 3245 scarlet fever patients, showing that frequently where there were several cases in the same family these developed the disease in the same day, or within two days following the onset of the first case. Coupling this with the fact that the incubation period of the disease is more than two days he concludes that there must exist a common source of infection in the household, rather than that one member is infected by the other. Another finding is that cases in a family may follow the initial case at a longer interval than seven days, the generally accepted limit of the incubation period. This points to the source of infection being either a mild unrecognized case which developed within the incubation period or a healthy carrier.

Successive throat cultures and Dick tests on all members of the households in which scarlet fever occurred bear out the conclusion that a carrier of hæmolytic streptococci may entirely lack symptoms and yet be a source of infection. These carriers explain multiple cases of the disease in a household notwithstanding the isolation of the first case. The cultures also showed that persons whose throats were free from the organism on the preliminary examination yielded abundant streptococci when scarlet fever developed.

A study of return cases, that is, cases occurring in a home after the return of the patient from hospital, indicates that their occurrence depended on whether or not hemolytic streptococci were present in the throat of the discharged patient. Their presence in 60 per cent of convalescents accounts for the large number of return cases.

In his summary the writer states that his statistics produce strong evidence that scarlet fever virus, if any, is inseparable from that organism. He emphasizes the importance of treating atypical cases or carriers in the control of an epidemic.

J. S. DELAHAYE

**Some Sidelights on the Thymus Vogue.** Garland, J., *New England J. Med.* 200; 59, Jan. 10, 1929.

There are no acceptable standards of normality or abnormality of the thymus gland as revealed by x-ray, because even at autopsy the gland by weight is subject to variations which permit only of average figures being made. If status lymphaticus is feared an x-ray of the thymus will not give information as to that; it must be a knowledge of the heart muscle, the blood vessels and the adrenals. Workers at the Massachusetts Eye and Ear Infirmary showed in a series of 4820 x-rays, that 7 per cent of children from 2 to 16 years have an enlarged thymus. But it is not proved that the simple enlarged or persistently large thymus gland is a definite abnormality or a menace to life.

The present vogue of x-raying for thymus, and radiating all cases in which a shadow appears would seem to be unjustified.

LILLIAN A. CHASE

## SURGERY

**The Association Between Leukoplakia and Squamous-Cell Carcinoma in the Upper Urinary Tract.** Patch, P. S., *New England J. Med.* 200: 424, Feb. 28, 1929.

Of recent years much interest has been taken in the pathogenesis of these comparatively rare conditions. On the whole, it has frequently been insisted that leukoplakia is a forerunner of carcinoma, but when the evidence for this view is examined it is found that the actual association of the two conditions in one individual has been noted in only a few cases. It was therefore thought to be of value to report a case in which there was found to be almost universal leukoplakia of the upper urinary tract, in association with definite squamous cell carcinoma of the bladder and one kidney.

Before describing his case Dr. Patch reviews the literature on the subject. The occurrence of leukoplakia of the urinary tract is shown to be not so extremely rare, since 123 cases are on

record. When the occurrence of carcinoma in this region is investigated, a certain degree of parallelism is found: 152 cases in all are reported. The simultaneous existence of the two conditions is reported in 13 cases, including that observed by Dr. Patch.

But the mere fact of the coincident existence of the two conditions is not enough. It should be possible to find transitional stages between the two, and it appears that there are records of this also, although few in number. In two cases there were found signs of atypical epithelial growth which were quite separate from the leukoplakia on the one hand and the carcinoma on the other. In his own case, Dr. Patch thinks that the proof of the transitional stage is even more definite, and he concludes that it offers the strongest evidence yet adduced of there being a gradual transition development of cancerous growth from originally benign leukoplakia in this region.

H. E. MACDERMOT

**Relief of Obstructive Jaundice from Tumours in the Head of the Pancreas.** Walters, W., and McVicar, C. S., *Ann. Surg.* 89: 237, Feb. 1929.

In cases of obstructive jaundice Moynihan states the case clearly: "No one living is infallible in the differential diagnosis of obstructive jaundice. The diagnosis is always so difficult and the chance of a life saved so important, that however positive the evidence of malignancy may be I now advise operations in all cases. It is impossible for the most astute clinician or the most subtle pathologist to discover from the anamnesis or from the chemical examination of urine and faeces whether a simple or a cancerous disease of the biliary passages and pancreas is present. He may shrewdly guess but a guess is a poor peg on which to hang a man's life. The mortality of cholecystenterostomy now is trifling if we take into account the severity of the disease and the outlook if nothing surgical is attempted. Apart altogether from the prolongation or saving of life, almost every patient will declare that the relief from the maddening torture of itching is worth every sacrifice. I suspect that the mortality from suicide in this disease is greater than that from the operations which afford relief."

The authors believe that it is inadvisable to remove a piece of pancreatic tissue for microscopic examination, thereby prolonging the operation, and inviting oozing of blood which may be difficult to control, to say nothing of introducing the possibility of a pancreatic fistula.

The diagnostic criteria necessary to the classification of cases of jaundice as surgical or non-surgical are relatively simple, consisting of pain, serum pigment curve, and the determination of whether or not bile is reaching the intestine.

Jaundice with severe pain should be considered surgical unless malignant metastasis can be demonstrated. If the course of the jaundice has been painless and duodenal siphonage fails to recover bile, and if the serum bilirubin curve remains stationary or rises, it may be assumed that an obstructing malignant tumour at the head of the pancreas is present. If the jaundice has commenced without colic, and if there is a free flow of bile into the intestine, the serum pigment curve falling steadily, intrahepatic and therefore non-surgical jaundice is probable. These diagnostic rules in jaundice, however, are not infallible.

Pre-operative preparation of a patient with jaundice is most important and consists in the intravenous administration of calcium chloride and blood transfusion in addition to a free administration of fluids.

In a series of eight cases, cholecystgastrotomy was performed on seven deeply jaundiced patients and on the eight cholecystoduodenostomy, the anastomotic opening being at least 2.5 cm. in diameter. Six of these patients are living, free of jaundice and of itching. Three of them feel well and two of these have gained twenty pounds each. The authors in the original article report the eight cases in detail.

R. V. B. SHIER

**Perforation of Peptic Ulcer.** Brown, H. P., Jr., *Ann. Surg.* 89: 209, Feb. 1929.

This report is based on an analysis of one hundred cases occurring at the Pennsylvania and Presbyterian hospitals, Philadelphia, 1910 to 1928 inclusive.

There was a marked preponderance of the condition in males and the coloured race showed a considerably lower percentage. About one-half of the entire group had been for various periods under more or less irregular medical observation for "stomach trouble."

The operative procedure favoured closure of the perforation with posterior gastro-enterostomy or pyloroplasty and the author believes that it is illogical to consider the mere fact that an ulcer has perforated as a contra-indication to gastro-enterostomy, provided the patient has been seen within a few hours of the time of perforating. A comparison of the mortality in those cases in which gastro-enterostomy was not done with those in which it was performed was 39 per cent in the former as compared with 29 per cent in the latter. However, these figures are considered to be of little value in arriving at a definite conclusion. While it is not always necessary to institute drainage following perforation, yet the author has never seen any ill result attributed to its use.

Twenty-four of the patients developed a definite peritonitis and died, while eighteen survived. Subphrenic abscess was encountered

once, occurring in a case in which perforation had occurred twelve hours previously. The subphrenic abscess was drained on the sixty-fourth post-operative day and the patient made a good recovery. Two patients developed empyema subsequent to pneumonia. There was a mortality rate of 33 per cent for the entire series.

The conclusions arrived at in this study are: (1) Operation should be performed as soon as possible; (2) Nitrous oxide-oxygen is the anæsthetic of choice, unless the surgeon has a strong preference for local administration; (3) If the patient's condition warrants it, excision or cauterization of the ulcer, plus gastro-enterostomy or pyloroplasty, is the method of choice; and (4) It is safest to institute drainage of the lower abdomen for forty-eight hours in all except definitely walled-off perforations.

R. V. B. SHIER

## PÆDIATRICS

**The Relation of the Tonsils to Acute Rheumatism During Childhood.** Kaiser, A. D., *Am. J. Dis. Child.* 37: 559, March, 1929.

From his study of 439 children (of Rochester N.Y.) who had had acute rheumatism, Kaiser makes the following observations: First attacks occurred about twice as frequently in children whose tonsils were present as in those whose tonsils had been removed. In the group where tonsillectomy was performed following the first attack, recurrences were 10 per cent less frequent than in the children who had not been tonsillectomized. Presence or absence of the tonsils did not appear to affect the incidence of endocarditis or of chorea, but the association of these two complications was more frequently encountered in those who had not undergone operation. Since they are so often the portal of infection the tonsils should be removed in all rheumatic or potentially rheumatic children.

A. K. GEDDES

**The Relation Between Malnutrition and Nervousness.** Seham, M., and Seham, G., *Am. J. Dis. Child.* 37: Jan. 1929.

By a carefully controlled laboratory experiment a positive relation between malnutrition and activity is demonstrated. Twenty rats were kept, each in a revolving cage, for about thirty-five days; for the latter half of this period ten of the rats were underfed, while the remainder were used throughout as controls. During the period of inanition the activity of the rats, as measured by the number of revolutions of the cage per day, increased by amounts varying from three times to two hundred and fifty times their pre-inanition activity, as contrasted with the slight fluctuations in the control rats. This increase in activity was

coincident with loss of weight (8 to 28 per cent), and with the development of marked restlessness. Whenever an adequate diet was reinstated, the rats showed a gain in weight, a decrease in activity and a loss of their restlessness. To show that lack of food is not the only cause of the loss in weight, a positive relationship is demonstrated, by methods of calculation, between the activity and the loss in weight. From this experiment the conclusion is drawn that hunger causes increased activity; that activity adversely influences the weight curve; that an adequate diet causes reduction of the activity and gain in weight; that malnutrition is a cause of restlessness.

A clinical study of malnutrition in childhood was also conducted. Questionnaires addressed to the school-child, to his parents, and to his teacher, concerning the health habits, food habits, efficiency, nervousness, and fatigability of the child, formed the basis on which the authors conclude that poor nutrition is associated with excessive activity. The importance of high calorie intake and of restricted activity with rest-periods in bed, in the treatment of malnourished children, is thus clearly indicated.

A. K. GEDDES

**The Under-Nourished Child.** Wilder, T. S., *New Eng. J. Med.* 200: 634, March 28, 1929.

The term functional under-nutrition may be applied to those children who do not measure up to the weight standards of the conventional height weight tables and yet appear normal in other respects. Frequently such a patient is indifferent, fidgety and irritable. The following is perhaps the course of events. (1) A healthy child, chiefly by overactivity, but in part because of loss of sleep, poor hygiene, irregular meals, and loss of appetite, begins to lose weight. (2) For a time he continues energetic, and alert, thereby taxing his depleted energy reserves. (3) Finally, he becomes too apathetic to be able to cope with the demands of normal activity. He is ultimately both malnourished and chronically fatigued, and as his appetite and self-control forsake him his condition gets progressively worse.

To "build up" such a child is found to be a relatively simple thing to accomplish, by (1) extra rest, sufficient to prevent fatigue; (2) simple, adequate meals; (3) attention to the hygiene of the intestinal tract; (4) moderate amounts of play, outdoors; (5) medical supervision in the form of systematic physical examinations and measurements of weight. Attention to these factors resulted in a striking improvement while the child was in the institution; a return to home conditions often caused a relapse. It does not seem advisable to put a child in an institution in order to make him normal in weight, unless one also takes pains to correct

the unfavourable influences in his environment which so often are to blame.

LILLIAN A. CHASE

## ANÆSTHESIA

**The Effects of Anæsthesia, Operation and Certain Other Factors in Glycemia: a Preliminary Investigation.** Mekie, E., and Miller, H., *Brit. M. J.* 1: 244, Feb. 9, 1929.

The administration of glucose is a part of the ordinary treatment of shock after operation. There is, however, during nearly all operations a gradual increase in the amount of sugar in the blood. Before operation the writers found the amount of blood sugar to vary between 227 mg. per cent and 84 mg. per cent. They found the amount high in patients suffering from acute infections, peritoneal infections, shock and nervousness. There is usually a steady increase in blood sugar during anæsthesia, quite independently of the severity of the operation. With this increase there is a proportionate increase in the pulse rate.

In 15.8 per cent of the writers' cases there was a fall in the amount of blood sugar, instead of a rise. In most of these patients the blood sugar had been found to be increased before operation.

Six patients were operated upon under spinal anæsthesia. There was a slight rise in blood sugar in four, and a fall in two. Some of the patients, on account of shock, were treated with subcutaneous infusion of glucose saline. In them the average amount of blood sugar was high before the injection. One patient was given glucose subcutaneously during operation. At the end of the operation the amount of blood sugar was 224 mg. per cent. The shock was so severe that an immediate blood transfusion was ordered.

W. B. HOWELL

**Inhalation or Injection Narcosis? The Development of the Specialty of Anæsthesia in Germany.** Schmidt, C. H., *Current Res. in Anæst. & Analg.* p. 20, Feb. 1929.

During the last two or three years there has been a keen search in Germany for new anæsthetic methods and agents. Much attention has been concentrated upon the intravenous or rectal injection of certain alcohols or derivatives of barbituric acid. The difficulties of the intravenous method are the regulation of the dose and the controlling of the effects. Recovery is very slow because the drug is destroyed in the liver instead of being eliminated through the lungs, as are inhalation anæsthetics. Avertin, or di-brom-ethyl alcohol, administered by the rectum, produces satisfactory anæsthesia in 50 per cent of patients when given in the proportion of 0.1 gram per kilo of body weight and in 75 per cent when given



in the proportion of 1.5 gram per kilo. It has been used in 30,000 operations. Absorption is prompt. The toxicity of the drug is lost quickly. There is a wide margin of safety. If anæsthesia is not deep enough, a small amount of another anæsthetic may be given by inhalation.

Acetylene has been used extensively in Germany, as an anæsthetic. The writer has used it more than 3,000 times. Its chief drawback is its explosiveness. Apparatus for administering this gas has now been so much improved that the danger of explosion has been practically abolished.

W. B. HOWELL

**Methods of Tracheal Insufflation and Intubation Inhalation of Anæsthetics.** Jones, W. H., *Lancet* 1: 330, Feb. 16, 1929.

The writer classifies tracheal insufflation as complete or partial. In the complete method the passage of air, or gas and oxygen, into the trachea, is in excess of the amount of tidal air. There is, therefore, an outgoing current through the glottis, around the catheter, even during inspiration. This is a "safety" method, because it prevents the aspiration of fluid into the trachea. In the partial method the amount of air supplied is less than the tidal air. The patient makes up the deficiency by to and fro movements through the glottis. Since fluid may be aspirated during inspiration this method is

not perfectly safe. The patient is at a disadvantage because the normal reflex mechanism which prevents the inhalation of fluids is hampered by the pressure of the catheter between the vocal cords. Partial insufflation is the method commonly employed, because the amount of air necessary in the complete method is too great for the pumps ordinarily used. Better than either method, where there is much bleeding in mouth operations, is the use of the double catheter and pharyngeal pack. An alternative is the use of a large single tube, passed into the trachea, the pharynx being parted. Unless the tube is quite large the resistance to the passage of air to and fro is so much imposed effort upon the patient. Signs of anoxæmia may appear. It is well therefore to add oxygen to the atmosphere breathed. Although the pharynx is parted and the glottis protected from the entrance of fluid from above, fluid may be vomited and dammed back by the gauze in the pharynx. To prevent this an even depth of anæsthesia must be maintained.

In chest surgery the lung can be expanded to fill the thoracic cavity by complete insufflation at a pressure of 30 mm. It is important to choose a large enough catheter. The pressure should not be maintained since high intrapulmonary pressure interferes with the circulation and the venous return to the right auricle is impeded.

W. B. HOWELL

## Obituaries

**Dr. D. L. Beckingsale.** The adventurous life of another of the early pioneers of Vancouver has just been closed in England by the death recently, at the age of 82, of Dr. D. L. Beckingsale, one of the early medical men of Vancouver, in the days before the fire.

Dr. Beckingsale came to the Pacific coast from England at the time that the sawmill town of Granville was selected as the terminal of the Canadian Pacific Railroad. He entered practice here and took a prominent part in the affairs of the town, being present at the famous meeting when it was decided to rechristen the community "Vancouver." He built up a considerable practice and was appointed as port doctor, probably the first medical man to hold the position under the development that resulted in the great port and city of to-day.

At the time of the fire he was a sufferer, losing his office and medical equipment. After this he remained in Vancouver for some little time, eventually settling near Vernon for the benefit of the health of members of his family. He then left the interior for Ontario, California, where he resided for some time before going to San Francisco. Here, twenty years after his experience in the destruction of Vancouver, he endured the horror of another devastating fire, being in the San Francisco fire and earthquake of 1906, and losing the drug store he owned and operated at that time. He then took service as ship's doctor on one of the vessels of the Pacific Mail Steamship Co., operating from San Francisco to South American

ports. This steamer was wrecked in Magdalena Bay, off the Mexican coast, when he had been aboard three years. The captain committed suicide when the vessel struck.

Dr. Beckingsale returned to the Old Country about 1912, and set up practice in North Wales, leaving his family in the States until he should be better established. Shortly after he left California his daughter died, and this was followed by the death of his wife, who was killed in an automobile accident. His remaining child, a boy, went to England at the outbreak of war and joined the Artists Rifles, from which unit he was seconded with a commission to the Duke of Cornwall's Light Infantry. He was killed at Ypres in 1917.

Dr. Beckingsale continued to practise in Wales during the period of the war. Several years ago he visited Vancouver, spending some time with friends here. He was buried, with fitting honours, in the family plot at Newport, Isle of Wight. C. H. BASTIN

**Dr. J. F. Finigan** died at Oshawa on March 21st in his forty-fifth year. A graduate of McGill in 1905, Dr. Finigan early devoted his attention to surgery and was an excellent practitioner of the art. He was said to have performed the first operation for appendicitis in the Oshawa Hospital. Unfortunately for the profession ill health had brought an end to his activities four years ago, and he had been compelled to relinquish a very extensive practice.

**Dr. W. H. Howey**, who for forty-six years had practised medicine as one of the pioneer physicians of the Sudbury district, died in Sudbury, Ont., on March 21st, in his seventy-ninth year. A graduate of McGill in 1878, Dr. Howey pushed west with the Canadian Pacific Railway and was for some years medical officer of a large territory stretching from North Bay westward. After several years with the railway, Dr. Howey settled in what is now Sudbury, in 1882, and watched this district in its development. He was much interested in civic affairs and was as well a member of the Provincial Board of Health.

**Dr. Erskine J. Keir** died at his home in Alberton, Prince Edward Island, April 8, 1929, after one year's illness. He graduated from McGill University in 1891 and soon afterwards began practice in Murray Harbor, P.E.I. From there he moved to East Boston, where he practised his profession for seven years. Following this, he returned to Prince Edward Island and began practice in Alberton and continued there until the onset of his illness.

**Dr. Keir** was an exceptionally fine type of medical practitioner. He was held in high esteem by patients and medical men alike, by both of whom he will be sorely missed.

**Dr. David Kellogg**, formerly of Spencerville, Ont., died in Ogdensburg, March 10, 1929.

**Dr. William Kyle**, a graduate of Queen's University in 1885, died at Jarvis, Ont., early in March.

**Dr. J. F. B. C. Phelan** died on April 8, 1929, at the Sacred Heart Hospital, Cartierville, Que., in his 90th year. He was ill only a few months. Born at St. Columban, Two Mountains, in 1840, he came to Montreal to attend McGill University and he received his degree in 1865. He first went to Knowlton and then was a resident of Waterloo, Que., where he practised medicine for forty-eight years. He retired in 1918 and was living in Outremont, Que., with his son-in-law, Dr. L. A. Lessard. He is survived by his widow and one daughter, Mrs. Lessard.

**Dr. W. Perritt**, a graduate at Toronto in 1908, died at Sarnia, Ont., during the month of March.

**Dr. John Simpson**, a graduate of both Victoria and Trinity Universities in 1881, died at Lindsay, Ont., on March 26th. Dr. Simpson was one of the oldest residents of Lindsay, was the much respected head of a very large practice, and had been as well the physician of the Grand Trunk Railway.

**Dr. Alexander Turner**, a graduate of Western University in 1901, died at St. Thomas, Ont., early in March.

**Dr. John J. Walters**, Superintendent of the Kitchener-Waterloo Hospital died in that institution on March 6th, aged 58. A graduate of the University of Toronto in 1899, Dr. Walters showed early his interest in the affairs of the empire by taking part in both the South African and the Great War. Dr. Walters had always been interested in civic problems and had been alderman and medical officer of health, as well as Superintendent of the Kitchener-Waterloo Hospital. He had for some time been attached to the pension staff of the D.S.C.R. of London, and at one time occupied the position of President of the Ontario College of Physicians and Surgeons.

**Dr. William John Weaver** died at Niagara Falls, Ont., on February 28th. One of the best known and most highly respected of the profession, Dr. Weaver had been in active practice for thirty years since his graduation at Toronto in 1896. Stricken with a severe form of heart disease he had been forced to discontinue active work of late, but had continued in a cheerful and optimistic existence to the great comfort of his many friends and patients. At the class reunion in 1928, held at Brantford, he contributed much to the enjoyment of the occasion by his kindly reminiscences and suggestions. The last years of his life might well be held up to us as an example of how a brave man must face the dread reckoning. The class of "Ninety-six, Toronto" takes this occasion to pay a tribute to his sterling character.

## News Items

### BRITISH EMPIRE

#### Bermuda's New Vaccination Law

After a bitter political and legislative contest for more than six months, Parliament decided the question of vaccination by passing a compromise measure.

The new law provides that vaccination of a child may be avoided if within four months a declaration is made of conscientious belief that vaccination would be

prejudicial to the health of the child. This declaration must be sworn to, stamped, and sent to the Department of Health at a cost of seven shillings. The power of the Board of Health to order persons to be vaccinated is limited to times when epidemics of smallpox are existent.

One of the members of Parliament suggested in the debate that members should be vaccinated, especially if it would cure some of their opinions.

### GREAT BRITAIN

#### Gifts of Radium to the London Hospital

Lord Knutsford informed the quarterly Court of Governors of the London Hospital on March 6th that two gifts, each of a gram of radium which cost £12,000, had been made to the hospital by two donors who insisted upon remaining anonymous. In addition, one of these had given £13,000 to be used as an endowment for a radium laboratory in which radium emanations could be collected in platinum containers for distribution. It was a condition of the gift that, if there was any excess of these emanations over that required for hospital

cases, it should be available for members of the surgical staff for private patients, and also for treating cases of cancer in other hospitals. Assistants to work in the new laboratory were being trained by Professor Russ, head of the radium department at the Middlesex Hospital. Lord Knutsford explained that previously to receiving these gifts they had been endeavouring to treat nearly 1,000 cases of cancer a year, though they only had enough radium to deal with about 150. An additional endowment for the radium laboratory had been received from the East End Tradesmen's Association, and amounted to £1,800. Lord Knutsford expressed regret

that the quinquennial appeal for £200,000 had only realized £118,337. It would soon be necessary to consider the question of enlarging the x-ray department, in which last year 25,000 radiographs had been taken.

#### The Mayor of Bath

The death of Alderman Cedric Chivers, mayor of Bath, which took place on January 30th, will recall to those who attended the annual meeting of the British Medical Association at the West of England spa in 1925 one of the most generous civic hosts whom it has been the fortune of the Association in its annual travels ever to meet. Alderman Chivers actually took office as mayor that year, for the second time, in view of the visit of the Association, and not only in the exercise of a princely hospitality on the occasion itself, but in much trouble and care over the arrangements long beforehand, he played a very large part in making the meeting memorable. His great reception will not readily fade from the memory of the 2,500 guests who attended. A large reception hall, with annexes, was built in the Abbey churchyard, the banks of the neighbouring Avon were illuminated, and a succession of entertainments quite out

of the ordinary were provided. Last year when the Conference on Rheumatic Diseases met in Bath, Alderman Chivers again provided generous hospitality, though he was too ill himself to make an appearance. His long mayoralty—six years—in which, being a widower, he persuaded Madame Sarah Grand, the authoress, to be associated with him as mayoress, will remain a distinctive episode in Bath's great annals. He was at the head of every movement for beautifying the city and removing any reproach in its housing. One achievement of his was the establishment of the orthopaedic department of the War Hospital at Combe Park. Needless to say, he was a man of wealth. His fortune was made in the unusual sphere of bookbinding, an art which he had revolutionized by a new method of stitching, and also by a new decorative process for choice books; but he had in addition many generous interests in art and literature.—*Brit. M. J.* 1: 261, Feb. 9, 1929.

Sir Berkeley Moynihan, Bt., upon whom the King has conferred the dignity of a Baron of the United Kingdom, has adopted the style and title of Baron Moynihan of Leeds in the County of York.

### PRINCE EDWARD ISLAND

The Government of Prince Edward Island has recently made a grant of thirty thousand dollars towards a new thirty-bed tuberculosis sanatorium, to be erected on the outskirts of Charlottetown. They also agreed to give twelve thousand dollars annually towards the maintenance of the institution. The remainder of the capital expenditure is to be raised by public subscription. Such a building is urgently needed.

The Dalton Sanatorium, built by the generosity of Sir Charles Dalton, some fifteen miles from Charlottetown, was closed shortly after the war ended because of its isolated position and excessive overhead expenditure. Since this time, the many tuberculous patients requiring hospital treatment have been compelled to seek admission in the sanatoria of the mainland. This proved very

unsatisfactory, not only because of the long trip and the complete separation from friends involved but also owing to the fact that most of these institutions were already over crowded. The majority of patients for these reasons have been compelled to remain at home, in many cases under conditions which rendered effective treatment impossible. Fortunately, the above program makes it reasonably certain that this unfortunate situation will be remedied, to some extent at least, in the near future.

Dr. S. R. Jenkins, President of the Canadian Medical Association, sailed for Europe a few days ago. He will return in time for the annual meeting in June.

J. W. MCKENZIE

### NOVA SCOTIA

Several very profitable meetings were held in Nova Scotia during the latter part of March, at which Dr. G. Harvey Agnew, Secretary of the Hospital Service of the Canadian Medical Association, of Toronto, was the chief speaker.

On March 15th a meeting was held at Truro, which was attended by more than fifty representatives of some twenty-four hospitals in Nova Scotia. An association was organized to include all the hospitals in Nova Scotia, and Prince Edward Island was invited to participate. It was made very clear that this action was anticipatory of the time when union with the recently formed New Brunswick Hospital Association might be effected.

In our opinion a striking feature of this meeting was the large number of doctors who were present. Among these, besides Dr. Agnew from the Canadian Medical Association and Dr. S. L. Walker, General Secretary of the Medical Society of Nova Scotia, were Drs. Dunbar, Kent, Eaton, McCurdy, Charman and Reid, of Truro; F. E. Lawlor, of Dartmouth, J. C. Morrison, of New Waterford, J. G. McDougall, of Halifax and Mr. Adamson of Pictou.

While questions as to increased government grants and the care of indigents were fully discussed the dominant idea emphasized was that the object of the association was to improve the service all hospitals are rendering to the public in the care of the sick, the prevention of disease, and the improvement of community health. The field in the Maritime Provinces is only large enough for but one association and all present hoped

this amalgamation would take place in the immediate future.

As noted elsewhere, Dr. Harvey Agnew, of Toronto, visited Nova Scotia last month. Besides being present at the organization of the Nova Scotia and Prince Edward Island Hospital Association at Truro, he spent March 18th in Wolfville in conference with the most enthusiastic group of hospital workers it has been our good fortune to meet in a long time.

It is a matter of regret that Dr. C. E. A. DeWitt finds it necessary to discontinue the maintenance of Westwood Hospital which has been doing such good work for a number of years. A public hospital of greater capacity must be established immediately. Sites, plans, heating, etc., were fully considered, and the contributions necessary to build a thirty-bed hospital seem to be assured. Here, too, many medical men were in attendance, including Drs. McGrath and Burns, of Kentville; Grant, Chase and Cochrane, of Wolfville, and Baird, of Canby. Both Dr. Agnew and Dr. Walker emphasized the assistance that the Canadian and Provincial Medical Associations could give in matters concerning these smaller hospitals in particular. The idea of their development as community health centres met with full approval. We believe a very efficient public hospital will take the place of the present institution within the next few weeks.

S. L. WALKER

### NEW BRUNSWICK

At the meeting of the Council of the College of Physicians and Surgeons of New Brunswick, Dr. R. W. L. Earle, of Perth, was elected President for the ensuing year. It was decided to make it obligatory for students registering for the study of medicine to have completed two years of Arts.

The plans for the new general hospital in Saint John were presented for a preliminary survey during the last month, and are now under process of revision by the architects. It is expected that they will be resubmitted at an early date, when tenders will be called for.

The series of clinics for the immunization of school children of Saint John against diphtheria, have been largely attended. A most gratifying fact has been the large number of pre-school children that have been voluntarily presented for inoculation. Dr. Warwick, District Health Officer, expressed himself as satisfied with the reception that has been accorded this public health measure.

Dr. Alex. Bell, of Newcastle, has been indisposed for some time. His friends were glad to hear that he is once more able to attend to his practice.

Dr. C. M. Kelly has returned from New York, following his usual spring tour of the surgical clinics.

Dr. E. Kennedy, of Sussex, spent the greater portion of the last month doing post-graduate work in New York.

Dr. J. D. Coffin and family, of Plaster Rock, have been visiting friends in Montreal.

We are glad to learn that Dr. J. E. M. Carnwath, of Riverside, Albert County, is improved in health.

Dr. H. L. Abramson, Provincial Pathologist, is at present on a visit to various centres in the United States, including Chicago and New York, in which places he is attending special conferences on public health matters.

Dr. G. A. B. Addy has returned from a holiday spent in the southern States.

Dr. Murray MacLaren, M.P., spent the Easter holidays in Saint John.

Dr. C. M. Pratt, of the Department of Pensions, has returned from a trip including the West Indies.

A. STANLEY KIRKLAND

### QUEBEC

Montreal's criminologists and the facilities for the promotion of their work were praised by Herbert H. Black, who declared that the Government, in this province, possessed the most complete and best-equipped legal-medical laboratories to be found anywhere on the North American continent. The speaker paid tribute to the erudition and experience of the three chief workers in these laboratories, Dr. G. W. Derome, Dr. Rosario Fontaine, and Franchère Pepin, chemist. The care with which the criminologist worked was illustrated with numerous slides showing modern methods and equipment for the detection of crime. In the science of criminology, ballistics and fingerprints were of paramount importance. Through the latter permanent and unchangeable records were kept of international criminals, often to their undoing. Other slides were shown illustrating the precision of instruments in criminal laboratories, one of which could show a difference of 1,200,000th part of an inch.

The committee in charge of the campaign in aid of the Laurentian Sanatorium at Ste. Agathe express themselves as highly gratified at the way in which the campaign has started. Although the special named and other sub-committees have scarcely got into full action yet, subscriptions are coming in with encouraging generosity, and the collectors report that they are received with the utmost cordiality and sympathy wherever they go. The object of the campaign is to wipe out a deficit of \$127,182, which the sanatorium has incurred during the past three and a half years' operation, and to provide needed equipment. Officials of the Laurentian Sanatorium have frequently been congratulated on their efficient administration. Out of thirty similar institutions in Canada, only two show a lower patient cost per day, than does the Laurentian, which costs \$2.25 per day. It was pointed out that the residents in the Province of Quebec suffering from tuberculosis and requiring sanatorium treatment are numerous. Dr. F. Learn Phelps, resident medical director of the sanatorium since its inception in 1908, told his audience something of the work done by the association.

The Montreal General Hospital, through Dr. Haywood, Superintendent, announces the gift of \$50,000 to purchase radium for use in the treatment of cancer. The gift was made by J. C. Newman, and will fill a want at the hospital, as heretofore the institution has not had any radium for cancer treatment. Speaking on behalf of the hospital, Dr. Haywood stated that the staff was elated on learning of the generous gift, as they had been considerably hampered by lack of radium in the treatment of the various cancer cases brought to the hospital. Mr. Newman's gift contains no restrictions, with the exception that he requests that any patient, who is unable to pay for radium treatment, be given the treatment free of charge.

The 35th annual meeting of the board of governors of the Royal Victoria Hospital, appointed Sir Herbert Holt, President, to succeed the late Sir Vincent Meredith, Lord Atholstan and Mr. T. B. Macaulay were appointed governors. In the report for the year, submitted by W. R. Chenoweth, the Superintendent, it was shown that 13,603 indoor patients received attention during the past year, 6,599 being Protestants, 3,859 Catholics, 2,604 Hebrews and 541 others. The average number of days stay in hospital was 13.2 as against 14.17 a year ago. Deaths numbered 462 and the rate, excluding those who died within 48 hours of admission, and "still births" was 3.4 per cent, as compared with 2.7 per cent, the previous year. The receipts for the year from all sources were \$983,135.38, while the total expenditure aggregated \$1,007,637.89, leaving a deficit of \$24,502.51 as compared with an operating deficit of \$65,873.52 a year ago—a decrease of \$41,371.01. Many new improvements were added during the past year and as a result, the total expenditure was increased by \$30,500. The main x-ray department was completely overhauled and additional space provided at a cost of \$15,000, to meet growing demands.

Six new anti-diphtheria vaccination stations have been opened by the City Health Department. In a specially prepared treatise on the importance and



necessity of vaccination Dr. Boucher gives credit to the Child Welfare, Anti-Tuberculosis, and General Health Leagues and to the Ecole d'Hygiène Sociale for having been the pioneers in anti-diphtheria vaccination, having opened these clinics before the city had taken any action. The necessity of having all children vaccinated against this malady is stressed by the medical health officer in a report.

With few exceptions the patients who have been admitted to the Murray Bay Convalescent Home during the past year have all returned home with renewed health of both mind and body, according to the report of the superintendent, Miss Dorothea MacDermot, presented at the 55th annual meeting of the Home recently. In commenting on the success of the year 1928, Gordon W. MacDougall, K.C., President, explained that the facilities of the Home extended to local inhabitants who could come for consultation and treatment in the out-door department, were largely used, and the work was growing in importance from year to year. Summer residents had sent substantial contributions to the home. Mr. MacDougall called attention to the fact that in the spring of 1928, the budget committee of Financial Federation had considered the establishment of a convalescent home near Montreal, which might have led to the discontinuance of the annual allowance to the Murray Bay Convalescent Home. However, after full consideration was given to the work done and the results accomplished in the past by the home, it was decided to

continue the allowance until such time as the plans for a convalescent home nearer Montreal might mature.

GEORGE HALL

A meeting of the sub-committee of the local Unit of the Osler Memorial Committee of the Canadian Medical Association was held at McGill University, on March 19, 1929. Drs. L. E. Pariseau, Maude E. Abbott, and A. G. Nicholls were present.

After considerable discussion of ways and means, it was decided to take steps to increase the personnel of the local Unit, and a number of invitations to serve were sent out to members of the profession in Montreal and elsewhere who might be helpful. Acceptances were received from: Drs. E. W. Archibald, Montreal; W. W. Lynch, Sherbrooke; R. T. MacDonald, Cowansville; Arthur Rousseau, Quebec; J. L. Todd, Senneville; and Arthur Vallee, Quebec, and these gentlemen were, accordingly, added to the committee.

It was decided at the meeting to take immediate steps to collect as many subscriptions as possible towards the Osler Memorial Fund, in order that a respectable showing for the Province of Quebec might be made at the approaching annual meeting of the Canadian Medical Association.

The committee hopes to raise an additional \$1,200 by that date.

Dr. L. E. Pariseau will approach the French-speaking profession, and Dr. A. G. Nicholls, the English. It is hoped that the response will be prompt and generous. The matter is now urgent.

A. G. NICHOLLS

## ONTARIO

At the invitation of Professor Christian and the Faculty of Medicine of Harvard University, Professor Duncan Graham of Toronto visited Boston last month to act in the capacity of Professor of Medicine in the absence of Professor Christian.

The activities of the Academy of Medicine for the month of March are indicated by the excellent programs. Of special interest during the month was the meeting of the Section of Pathology at which Professor Klotz detailed recent advances in the studies of yellow fever as revealed by the studies of the commission which have been investigating this infection with the aid of the Rockefeller endowment. Equally interesting was the detailing at the Section of Medicine of the special methods of treatment of tuberculosis as seen in the European clinics by Dr. J. H. Elliott. Dr. Elliott described at length the trip through European clinics, arranged by the Sun Life Insurance Company for the group of Canadians interested in the study of tuberculosis. The demonstration of Dr. Gerstenberger at the Section of Paediatrics, noted above, was part of the Academy's program.

Dr. Ward Woolner, of Ayr, 2nd Vice-president of the Ontario Medical Association, addressed the annual meeting of district number two of the Ontario Nurses' Association, at Galt, on March 6th, on "A frontier nursing and midwifery service."

The St. Thomas Medical Society met on March 8th, when Dr. A. A. Fletcher, of Toronto, gave an address on "Diet and insulin in the treatment of diabetes mellitus."

On March 11th, the Cornwall Medical Society was addressed by Dr. A. B. LeMesurier, of Toronto, on "Surgical conditions in children."

On Wednesday evening, March 6th, Dr. Gersten-

berger, Director of the Children's Hospital, Cleveland, and Professor of Paediatrics, gave an address to the staff of the Hospital for Sick Children, Toronto, on "The rôle of ultraviolet radiation or its substitute in the cure, development, and prevention of certain diseases."

Judging by the program for the annual meeting of the Ontario Medical Association, to be held in Hamilton next May, a treat is in store for all who attend. With good weather, this should be one of the best meetings ever held by the Association. The Hamilton Committee has certainly done its part toward ensuring an excellent program as far as the scientific side of the meeting is concerned.

On March 21st, the Lincoln County Medical Society met at St. Catharines. Addresses were given by Dr. R. I. Harris, of Toronto, on "Renal surgery," and Dr. I. H. Erb, of Toronto, on "The relationship of the laboratory to the general practitioner."

At a meeting of the North Waterloo Medical Society, held in Kitchener on March 22nd, Dr. E. D. Busby, of London, gave a talk on "The prostatic problem."

The Porcupine District Medical Society met at Timmins on March 23rd. Dr. H. C. Wales of Toronto spoke on "Endocrine therapy."

Dr. Norman B. Gwyn, of Toronto, addressed a meeting of the Brant County Medical Society in Brantford on March 28th, his subject being "Coronary thrombosis."

An excellent meeting of the Barrie and District Medical Society was held in Barrie on April 3rd. Dr. Geo. A. Ramsay of London gave a talk on "Injuries and infections of the hand."

N. B. GWYN

The Kingston and Frontenac Medical Society held its annual meeting on April 9, 1929, when Dr. Fulton Risdon, of Toronto, gave a splendid illustrated address on "Focal infection and tumours of the jaws." The

election of officers took place, all being elected by acclamation, as follows: President, Dr. W. A. Jones; Vice-President, Dr. Thomas Gibson; Secretary, Dr. Presley A. McLeod; Treasurer, Dr. L. J. Austin.

## MANITOBA

On April 11th the Manitoba Legislature endorsed the principle of public health units. The Public Health Act was amended to empower the Minister of Health to prepare a scheme for the organization of full time health districts in the province, consisting of a group of municipalities having an aggregate population of at least 10,000, subject to the approval of their respective councils. The plan provides for the appointment of a District Board of Health, comprising nominees of the municipalities included, and would do away with part-time health officers. Hon. Dr. E. W. Montgomery explained that statistics showed that mortality rates were higher in rural districts than in the city, and the scheme would furnish a means of coping with this problem. The proposed method of financing is that the municipalities involved would pay half the cost, the province a quarter, while the Rockefeller Foundation would furnish the rest.

A Lister celebration, which it is hoped, will be perpetuated annually, was held under the auspices of

the Manitoba Medical Association on April 8th, at the Fort Garry Hotel, Winnipeg. It took the form of a dinner and an address. Dr. E. J. Boardman presided and Dr. B. J. Brandon introduced the speaker, Dr. H. P. H. Galloway, who chose as his subject, "Recent advances in orthopaedic surgery made possible by Lister." The address was illustrated with numerous lantern slides.

Dr. W. R. Gorrell, who has practised for many years in Minnedosa, is leaving shortly to engage in practice in Winnipeg.

On March 28th, Dr. S. Hanford McKee, of Montreal, addressed the Eye, Ear, Nose and Throat Section of the Winnipeg Medical Society in the club rooms of the Medical Arts Building, on "The relation of the pathological laboratory to clinical ophthalmology." The lecture was illustrated with about one hundred lantern slides.

## SASKATCHEWAN

### The Maternity Grant in Saskatchewan

This grant is intended for mothers in outlying districts of the province, not for cases that reside in an organized city, town, or village.

The applicant makes a written application to the Deputy Minister of Public Health, stating the time of residence in the province, place of residence, and distance from the nearest doctor.

Financial circumstances are given, including the amount of land owned, the acreage under cultivation, the amount of stock owned, the amount of implements owned, and the harvest results. The conditions of the husband's employment are given, if not farming.

The applicant has to be recommended by one of the responsible officials of the district or municipality, such as the Reeve, the Secretary-treasurer, the Registrar of Vital Statistics, or a member of the Legislative Assembly.

The full amount of the grant is twenty-five dollars, granted at the discretion of the Deputy Minister, either wholly or in part.

Where there is a physician resident within twenty-five miles of the applicant his services are arranged for. The object of the grant is to assist mothers to obtain competent medical attention at the time of confinement.

The money granted may be paid to the hospital which cares for the patient, or to the physician, or, if no physician is within twenty-five miles or not available, to the nurse who attends the case, or to the mother herself; or the amount may be divided between the mother and the doctor or nurse attending the confinement.

In 1928 these maternity grants were given to 521 mothers. The total amount thus expended was \$12,137.

Saskatchewan is the only province in Canada giving these grants.

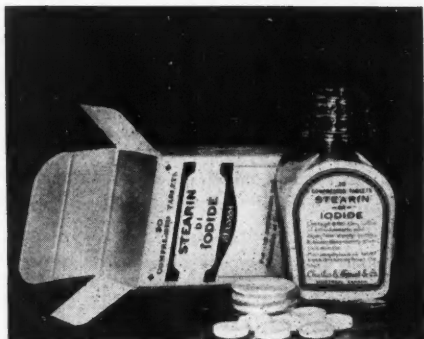
Dr. E. B. Alport addressed the Social Service Council of Saskatchewan on Mental Hygiene at their

annual meeting in Regina. At this meeting the following resolution regarding mental hospitals was passed:

Whereas in the diagnosis of some forms of mental disease there is often required a period of time for the purpose of observation and examination of patients, and whereas in the Act respecting the care and treatment of mentally diseased persons provision is made for a remand for three days for this purpose, but this remand is not to be to a jail, prison or police cells, but to some other place; and whereas wards of general hospitals would seem to be the only other place; and whereas general hospitals usually refuse to admit such patients or place special requirements such as special nurses and private wards upon the friends and relatives, thereby rendering it impossible in a large number of cases for patients to be admitted; and whereas patients often have physical as well as mental ailments which require often the special care and attention of general hospitals; and whereas mental symptoms do often develop in patients already undergoing treatment in general hospitals rendering them unsuitable patients to remain in general wards; therefore be it resolved:—That general hospitals should be called upon to make special provision for temporary admission of patients exhibiting mental symptoms or patients who may be remanded under the Act for observation and examination. That in as much as these psychopathic wards would be more expensive to maintain, the various hospitals making such provision to accommodate this type of case should be specially reimbursed by the Government of the Province, either by building and maintaining such wards, or by special grants to meet the added cost of maintenance.

The first meeting of the Battleford District Medical Society after the winter recess was held at the Mental Hospital on April 5, 1929. Eight members were present, the unfavourable weather preventing a larger attendance. Dr. Edgar Allin, of Edmonton,

## IN THE TREATMENT OF SIMPLE GOITRE



THE value of Iodine in the treatment of non-toxic goitre has received abundant proof from many competent observers. There are, however, some very important considerations which must be borne in mind in treating the condition, chief among which, is that too much iodine can be given. Cases have been recorded where the administration of Iodine in too large doses has changed a non-toxic goitre into a toxic goitre. The next important consideration is that treatment

should be constantly under the supervision of a physician who could at once detect symptoms of hyperthyroidism. This latter complication is, however, seldom observed if treatment is carried out as described below.

The method of treatment of non-toxic goitre now generally employed is to give 5 or 10 mg., (1-12 or 1-6 gr.) of Iodine daily for thirty days, this is followed by an interval of thirty days, when medication is carried out as before for another thirty days. This sequence is repeated until the Thyroid Gland no longer grows smaller.

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In tablet form, each containing 0.005 gm. of available Iodine, as di-iodostearic acid mixed with sugar, is a readily assimilable non-irritating, palatable, safe and effective preparation for the treatment and prevention of Simple Goitre. Its palatability renders it particularly acceptable to children as a confection. It is adapted to the needs of preventative medicine in community and school service.

*Dose.*—For the treatment of simple goitre, one or two tablets daily during alternate months.

*For prophylaxis.*—One or two tablets once a week from the age of three to sixteen years.

*During pregnancy.*—To ensure an adequate supply of Iodine to mother and child—one tablet every other day during the period of pregnancy and lactation.

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spoke on "Surgical diseases of the gall-bladder." His paper was much appreciated and well discussed.

The Embury Chapter of the I.O.D.E. of Regina has notified the local medical society of its intention to supply drugs on the recommendation of the attending physician to patients in the city who are unable to pay for them.

In preparation for the construction of the School for the Deaf the Government sent a group consisting of Mr. M. W. Sharon, provincial architect, Mr. N. Latour of the School District Organization Department, Mr. R. F. D. Williams of the Canadian Association of the Deaf, and Mrs. Hollis of the United Farm Women, to the United States to study the construction and operation of such schools there.

There are 542 cases of blindness in Saskatchewan according to the annual report of the Saskatchewan Advisory Board of the Canadian National Institute of the Blind given in Regina in April. The age incidence is as follows:

1 year to 7 .....	20
8 years to 20 .....	100
20 years to 40 .....	81
40 years to 60 .....	137
60 and over .....	175
Unclassified .....	29
Total .....	542

Dr. Hanford McKee, of Montreal, addressed the March meeting of the Regina and District Medical Society on the "Relation of the pathological laboratory to clinical ophthalmology." He illustrated his

talk with lantern slides. Dr. R. Riley, pathologist to the Regina General Hospital, also addressed this meeting on "Museum specimens."

Lister Day was celebrated in Regina by a medical banquet at the Parliament Buildings, at which Dr. T. W. Walker, of Saskatoon spoke on "The work of Lister."

Dr. Clarence Hames, who graduated from University of Toronto in 1924, and who has spent three years in post-graduate work in the Hospital for Sick Children, Toronto, has opened an office in Regina.

Dr. and Mrs. Lynch, of Saskatoon, have returned from a trip to the West Indies.

Dr. E. R. Meyers, of Saskatoon, is spending his holidays in Victoria.

Dr. L. H. McConnell of Saskatoon has returned from three weeks study at the Coffey Clinic, Portland, Oregon.

Dr. Gordon Young, of Moose Jaw, addressed the Home Economics Section of the Saskatchewan Educational Association on "Child nutrition and care," at the annual meeting in Moose Jaw.

At the April meeting of the Medical Staff of the Regina General Hospital the following cases were reported: "Hodgkins' disease," Dr. Stephens; "Acute Hepatitis and cholangitis," Dr. E. B. Alport; "Uræmia and cerebral edema," Dr. F. C. Corbett.

LILLIAN A. CHASE

## ALBERTA

The Executive Committee of the Alberta Medical Association made plans at a recent meeting for next September's gathering. The date of this meeting was fixed subject to adjustment, so that there might be no overlapping of the dates of the four western medical association meetings. It is altogether probable that September 18th, 19th and 20th, will be the days upon which the provincial meetings will be held, and in the city of Lethbridge. This will be the first time in the history of the Alberta Medical Association that an annual meeting will be held in Lethbridge, famed as a great coal centre. There is also a large irrigated area adjacent to Lethbridge, and the Waterton Lakes, a Mecca for tourists, lie to the south west.

Among those who will come from the east to give lectures and clinics will be Dr. A. T. Bazin, Professor of Surgery in McGill University; Dr. K. A. MacKenzie, Associate Professor of Medicine of Dalhousie University, Halifax; Dr. George H. Murphy, Associate Professor of Surgery, Dalhousie University; Dr. G. E. Richards, Professor of Radiology, Toronto University; Dr. George S. Young, Associate Professor of Medicine, Toronto University; Dr. H. B. Van Wyk, Associate Professor of Obstetrics and Gynaecology, Toronto University. These well known representatives from eastern Canada will come west under the ægis of the Canadian Medical Association. Our Provincial Association is deeply appreciative of this generous offer to send men of such great ability to give us added knowledge.

There has been considerable discussion in the Alberta Legislature concerning the importation of women physicians from Great Britain. The sentiment was expressed by the Opposition that the Canadian field should have been canvassed before the question

of outside graduates was considered. Up to the present time no British women physicians have been employed by the Government, though there was a statement made in the press that one from the Province of Quebec had been engaged at a salary of \$2,500.00 a year, and that in addition house accommodation and local transportation would be furnished at the expense of the Government.

The Health Act is being amended so that provision will be made for two health units, each composed of several municipalities, which will have the right to vote themselves in or out of the unit. Having once voted for "in" they will have to remain in for a period of year. The municipalities concerned in this scheme will have to bear half of the total cost, the Government one-quarter, and the Rockefeller Foundation one-quarter. As to the share which each municipality will have to pay, this will be decided by the Board of Public Utilities of Alberta. The staff employed will consist of full time officers, one doctor, two nurses, one sanitary engineer, and a secretary.

Following a resolution that an investigation into the question of state medicine be made, a report has been presented to the Legislature, but full details are not yet available. From comments made in the press we gather the information that the cost of such a plan was considered too great to place this scheme in operation at the present time.

The extra-mural post-graduate courses under the auspices of the Canadian Medical Association have been so greatly appreciated by the medical profession in Alberta during the past three years that the Executive Committee of the Alberta Medical Associa-





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 Dry Powder Capsule No. 313 = 15 minims;  
 Dry Powder Capsule No. 314 = 20 minims; Dry Powder Capsule No. 315 = 30 minims

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tion is arranging with the Canadian Medical Association for further tours during the months of April and July. It is likely that points not heretofore visited will be placed on the list. It had so far proved easier to add another town than to withdraw from any place where a meeting has once been held.

According to Mr. W. G. Hunt, Associate Secretary of the Alberta Medical Association, there are about twenty-five vacant places for physicians in Alberta at the present time. These openings are mostly in the smaller towns, where hospital facilities are absent. Some practices are to be had through the purchase of property from physicians who intend visiting some of the European clinics.

The College of Physicians and Surgeons is taking a plebiscite of the profession to see if they desire to undertake the work that has been heretofore carried out by the Government Travelling Tonsil Clinics. Under such an arrangement the travelling clinic would be relinquished and physicians in various localities throughout the province would organize in the school districts where desired. The children would be brought to a hospital centre on one special day, or several special days, depending on the number and on the accommodation at the hospitals. The whole undertaking would be under the direction of the local doctor, who would call to his assistance such other physicians or surgeons as might be necessary. While the plebiscite will be taken by the College of Physicians and Surgeons, this organization will not essay to influence the vote in any way whatsoever, and the ultimate result will depend upon the general feeling expressed by the profession. The main idea underlying this change will be to find a better method of carrying out the work than the present one, and to meet the need for tonsil operations which the Provincial Department of Health maintains is existent, and which need was not met, prior to the establishment of the Government Travelling Clinics. If our profession undertakes this work two notable improvements will be sought after, namely, the work will have to be carried out in regular hospitals and the children will have proper post-operative care. Old halls, school houses or churches will not be improvised as hospitals, as has been the case in the past.

At the recent United Farmers of Alberta meeting a resolution was passed regarding the contemplated amendment of the School Act, which will make provision for the health inspection of the children in the rural schools, similar to that provided in the cities. It seems probable that the mover of this resolution was of the opinion that the Government would provide for the inspection of the rural children out of funds from the general taxation, otherwise there would have been no other reason for the resolution. At the present time provision is made in the School Act, whereby trustees may have this inspection, with the cost paid out of the funds of the district in a manner similar to that carried out in cities.

To ascertain whether there is a need and a desire for this inspection, and whether the profession would arrange to give it and at what cost per school, a plebiscite is being sent out by the College of Physicians and Surgeons. When the result is known we will know how great the desire really is for rural health inspection.

On March 27th the members of the Calgary Medical Society listened to a most interesting address by Dr. S. Hanford McKee, of McGill University, on "The relationship of the pathological laboratory to clinical ophthalmology."

The ratepayers of Calgary, by an overwhelming majority, rejected the two by-laws which would have authorized the city to borrow a total of \$1,275,000 for hospital purposes. It is a matter of regret that these by-laws did not pass, since there is at present an urgent need for much greater hospital accommodation. It was the intention of the civic authorities to expend this sum on a thoroughly up-to-date institution, with adequate accommodation for patients for many years to come.

The editorial comment in the "Calgary Daily Herald" under the date of March 22nd, given below, affords food for reflection regarding popular sentiment relative to our municipally-owned hospital.

"The decisiveness of the vote cast against the by-laws providing for the construction of a new General Hospital shows that the citizens generally are out of sympathy with hospital affairs. It has become evident by this time that the municipalization of the hospital has alienated direct public support. There is no longer any personal contact between the institution and the community.

The moment the hospital became tangled up with municipal politics it suffered under a great disadvantage. It lost the splendid volunteer support of men and women who formerly worked early and late to raise money for its assistance. There is no longer any incentive for citizens to assist the hospital as they did in the days when it was managed by a hospital association. It has become entirely impersonal.

In former days a women's auxiliary performed valuable service for the institution. The committee raised funds by tag days and other means to provide all the linen that was necessary and to assist in other ways. Citizens maintained close touch with hospital affairs, as is the case in Vancouver and many other centres to-day.

In other cities public hospitals are the recipients of important bequests. No one will give money to an institution merely to reduce another man's tax levy. The municipalized Calgary General is likely to wait a long time for an endowment through this channel.

The civic authorities might well consider whether a change in the present form of administration to bring the hospital into closer contact with the citizens would be advisable."

Dr. A. W. Bowles has returned from a year and a half post-graduate work in London and Edinburgh. He obtained the F.R.C.S. diploma from Edinburgh. He will practise in Calgary.

On March 5th, Dr. A. H. Baker, Superintendent of the Provincial Tuberculosis Sanatorium near Calgary, addressed the members of the Calgary Medical Society on the subject of "Observations made during my recent visit to Europe on methods used in the treatment of tuberculosis." Dr. Baker, along with thirty other physicians from various sanatoriums throughout Canada, visited England, Scotland, France, Switzerland and Italy, and all received a splendid welcome throughout the tour. This trip was made possible through the generosity of the Sun Life Assurance Company of Canada.

Dr. E. A. Johnson, of Fort Saskatchewan, has disposed of his practice to Dr. R. H. Mason, who has been practising at Clyde.

We are pleased to report that Dr. A. W. Park, President of the Calgary Medical Society, is making good progress toward recovery from his recent severe illness.

Dr. M. E. Grimshaw, who formerly practised at



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*THIS new twenty-page booklet on "Rickets, Dentition, and Vitamin D" is a review of the most recent literature on the subjects. The bibliography is extensive and representative, including researches done by physicians, dentists, and biochemists.*

### CASE ILLUSTRATION

#### Medical Examination

C. W. Age 15, in case illustration shows a typical case of rickets with tibia and fibula bowed anteriorly. He is 4' 2½" in height; weighs 80 pounds, a 7th grade student. Has five brothers and sisters living and, so far as he knows, healthy. Two died having passed adolescence. Femora bowed considerably. Marked beading of ribs with a tendency to flare like an emphysematous chest. Superficial reflexes markedly exaggerated by merest tapping. Most marked over deltoid and biceps. A definite raised welt travels in direction of contracting wave. Wasserman negative.

Write for this Booklet.

#### Orthodontic Examination

General appearance not good. Occlusion fair. Mucosa inflamed and blue in places. Extensive breaking down of teeth by decay, due possibly to faulty diet and deficiency of calcium. Test by electric pulp tester of upper left second molar, lower left first and second molars and lower right second molar negative. Upper left first molar extracted due to decay and extensive rarefaction. Analysis for calcium, found 48.64% (normal 91-95).

Lower right first molars show large areas of rarefaction due to extensive decay and death of pulp. Third molars impacted upper and lower.

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Peace River, and has been surgeon on one of the Pacific Liners during the past year, has settled at Fairview.

Dr. A. L. MacRae has removed from Willingdon to Hythe in the Peace River district.

G. E. LEARMONTH

## BRITISH COLUMBIA

Dr. E. R. Hicks of Cumberland has been appointed to the position of Medical Health Officer for the district surrounding Cumberland, and Medical Inspector of Schools for Minto, Royston and Union Bay, on Vancouver Island.

Dr. G. E. and Mrs. Gillies, of Vancouver, have left for a trip to Europe. They expect to be away about three months.

Dr. Ross Lane, of Nanaimo, has left for New York to take post-graduate work. His practice is being cared for by Dr. E. Elder.

The British Columbia Committee on Historical Medicine is now under the Chairmanship of Dr. A. S.

Monro, as Dr. D. W. Keith, who was nominated as chairman at the last meeting of the Executive, has regretfully tendered his resignation owing to the pressure of work.

Dr. A. S. Monro has also recently been honoured by his election to the presidency of the Medical Officers Association.

The Provincial Legislature's commission to enquire into the desirability of health insurance in British Columbia will consist of W. F. Kennedy of North Okanagan; C. F. Davie, Cowichan-Newcastle; Dr. L. E. Borden of Nelson, Conservatives; and Dr. J. J. Gillis of Merritt and G. S. Pearson of Nanaimo, Liberals. The Commission will commence work shortly, it is announced.

C. H. BASTIN

## UNITED STATES

### The Massachusetts General Hospital

The Massachusetts General Hospital of Boston is contemplating the erection of a new hospital for the benefit of people of moderate means. The contracts amount to nearly \$1,500,000, and the trustees believe they will be able to raise the full amount of the necessary funds.

### Tularemia in New York

The New York City Board of Health reports its first case of human tularemia. A woman bought some rabbits which she prepared at home. Three days later she was taken suddenly ill, with chills, fever, malaise, and generalized pains. The next day a hard inflamed area appeared on one of her fingers, which broke down. The diagnosis was made by means of the agglutination test.

## GENERAL

### Honour for Dr. A. T. Stanton

Ambrose Thomas Stanton, M.D., C.M. (Trinity, 1899), F.R.C.P., London, and M.R.C.S., England, former Director of the Government Laboratories at Kuala Lumpur, Federated Malay States, and now Chief Medical Adviser to the Secretary of State for the Colonies, London, England, has been awarded a C.M.G. (Companion of the Order of St. Michael and St. George), according to the New Year's honour list.

Dr. Stanton was born in the village of Kendal, Durham County. He was educated at Port Hope High School, Trinity Medical College, Toronto, and University College, London, England. He was house surgeon in the Sick Children's and General Hospitals, Toronto.

In 1926 he was awarded the Bisset-Hawkins medal by the Royal College of Physicians and Surgeons, which is bestowed triennially upon the British medical practitioner who has, during the previous ten years, done such work in advancing sanitary science or in promoting public health, as to deserve special recognition.

We have received the first issue, published in January, of a new monthly journal, entitled *Révue Belge des Sciences Médicales*, which is the official organ of the Medical Section of the Scientific Society of Brussels. The editorial staff consists of Professor L. De Beco of Liège, Drs. J. F. Heymans of Ghent, A. Lemaire and J. Maisin of Louvain, and A. Bessemans and J. Rodhain of Brussels. The first issue consists of original articles, clinical records, a survey of recent work on hæmatology, abstracts from current Belgian literature, and reviews of books. The new journal presents a very attractive appearance. The subscription is 80 francs for Belgium, 100 francs for France, and 175 francs for other countries.

### Sterilization of the Mentally Deficient

Legislation authorizing sterilization under certain circumstances has been passed by the Province of Alberta, Canada; New Zealand; twenty-three states of the United States of America; by Denmark, Norway, Sweden, Czecho-Slovakia; and by the Canton of Vaud, Switzerland.



Note for the Medical Profession

A

## Powerful Non-Toxic Germicide

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## Book Reviews

**Elementary Medicine in Terms of Physiology.** D. W. Carmalt Jones, M.A., M.D., F.R.C.P. 360 pages, 4 illustrations. Price 12/6 net. H. K. Lewis & Co., London, W.C.1, 1929.

The author presents in this volume the results of some twenty years' experience in the study and teaching of elementary medicine, material which he presumes all teachers present to their pupils but which they rarely commit to paper. It is an attempt to present the facts of clinical medicine on the basis of physiology or working hypothesis. In an attempt to discuss the etiology, symptoms, and physical signs of most diseases, he has gone beyond elementary matters and yet not far enough to write a text-book on diseases. The volume covers a wide range of clinical medicine. In the attempt to avoid too extended discussion of some diseases the writer has been forced to tell only part and this may be misleading. For example, in writing of bronchiectasis he says "the physical signs are those of a cavity," whereas this physical sign is rarely demonstrable and only in the rare far advanced case with a large cavity near the surface.

On the whole it is a book which the student in the pre-clinical years and in his early clinical studies may read with advantage. It will stimulate him to read more extensively. J. H. ELLIOTT

**Imperative Traumatic Surgery with Special Reference to After-Care and Prognosis.** C. R. G. Forrester, M.D., F.A.C.S. 464 pages, 598 illustrations. Paul B. Hoeber, New York, 1929.

This volume is written almost entirely from the personal experience of the author. In debatable questions reference to other works is given without entering upon full discussions. The writer served for a time with Sir Robert Jones during the war and bases his treatment of many conditions upon lessons learned from that great teacher. The paragraphs on prognosis and after care are particularly good. The practitioner of limited experience, who finds difficulty in estimating a disability when reporting to a compensation board, will find great help in this book. The illustrations are very numerous and are well executed.

The section on injuries to the spine is excellent and the advice regarding the after care of fractures evidently comes from much experience. The frequent inspection of splints is stressed. Exception must be taken to the treatment advocated for fracture of the hip in the aged. That time honoured bug-a-boo, hypostatic pneumonia, has held its place too long in literature on this subject. Most old people would prefer comfort, in well applied plaster spicas, while enjoying a good chance of recovery, to the misery of being saved from a condition which is not common in the experience of surgeons in large hospitals.

Collodion dressings on the fact and head are condemned, but the objection must be to the ancient method of covering a wound with an impervious application of collodion and absorbent cotton. A dressing under a piece of gauze secured by collodion applied to its frayed edges has many advantages.

The criticisms offered only accentuate the general excellence of the work. The book is worthy of being read and studied by anyone having to do with industrial surgery or with the accidents which occur in every community. MALCOLM H. V. CAMERON

**Diseases of Infants and Children.** Henry Dwight Chapin, A.M., M.D., and Lawrence Thomas Royster, M.D. Sixth edition. 675 pages, 184 illustrations. Price \$7.50. William Wood & Co., New York, 1928.

This book has enjoyed in the past the respect of the medical profession. It is deserving of admiration for it contains, in its small size as much accurate information, concisely and clearly expressed, as one could reasonably expect.

The first three chapters briefly consider the newborn; then comes the development of the child. The next section gives sound advice on the examination and signs of disease in the infant. The chapters on infant feeding are brief and practical. Acidified milk feedings are lauded. The exanthemata are well described, but the coloured plates would not help one much in making a diagnosis; otherwise, the illustrations and photographs are very good.

The less frequent diseases are described in smaller print at the end of the chapters of their respective systems. There is a chapter on the care of dependent children and child-caring institutions. Finally, there are tables of weights and measurements of children and of foods. Treatment is conservative and orthodox throughout.

This work is to be commended.

O. J. DAY

**The Child in America: Behavior Problems and Programs.** William I. Thomas and Dorothy Swaine Thomas. 583 pages. Price \$5.00. Alfred A. Knopf, New York. Longmans, Green & Co., Toronto, 1928.

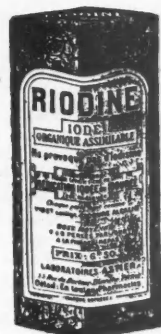
The authors here present a comprehensive and scholarly review of the history and present status of the whole question of behaviour problems in childhood, with a critical analysis of the various programs directed toward the study and control of behaviour.

Forty-six case-reports, demonstrating types of mal-adjustment ranging from enuresis and temper-tantrums to delinquency and homicide, form the material by which the problem of unconventional behaviour patterns is submitted to the reader.

The problem having been indicated, the second part of the book deals with the various methods which have been advanced to meet it. In the treatment of delinquent children, the penitentiary, the reformatory, the boarding-home, the training-school, and the industrial farm have met with varying degrees of failure. The juvenile court system as a whole has not been successful as a means of preventing or treating delinquency. The limitations of the psychiatric method of approach, as exhibited in child guidance clinics, are shown. The work of community organizations, from Rotary Clubs to the police, is reported and evaluated. The movement of the schools to assume responsibility for "the whole child," to become a behaviour-training organization rather than an institution for learning—fitting the school to the child rather than the child to the school—is commended as a step toward a more universal education. Parent training, especially through the objective study of behaviour in the nursery-school, is a valuable practical method.

In the execution of these programs, many problems are encountered which can be solved only by academic researches and the development of scientific techniques. Studies of mental delinquency, habit formation, family relationships, emotional instability, and gang-life of children, from many laboratories and clinics, are compiled, compared, and appraised. The psychometric, psychiatric, and personality-testing methods, the physiological and morphological approach, and the sociological plan are explained and studied.

The descriptive and experimental data are presented in the form of excerpts from the reports of organizations, clinics and individual workers all over

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### *The Handicap of the Doctor*

Medical men are at a great financial disadvantage as compared with those in business, or even in other professions. They play a lone hand. Their skill is their sole asset. They cannot depute their work, even in part, to others. Unlike men in other callings, they have not the protection of partnership agreements which at death will convert the goodwill of their connection into cash for their dependents.

Their incomes are limited sharply by the extent of their own physical powers.

Through experience and toil their reputations and their incomes steadily increase. But so do the standards of living of their families. Educational, social, domestic and benevolent demands multiply apace. And, failing some financial precaution, the doctor's whole asset, on which the comfort of his dependents hangs, is swept away by death.

### *How it is Removed*

The Sun Life Company has a plan whereby a medical man may obtain a retirement income on a guaranteed basis from the proceeds of assurance, the income to begin at a definite age.

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America. These excerpts, printed in small type, comprise the greater part of the book. The authors' analysis and appraisal of this immense bulk of work is extremely informative, lucid, and stimulating. They are anti-Freudian and conservatively behaviouristic in attitude. They make a strong plea for carefully controlled experiments, the establishment of normal standards, and a more rational use of statistical analysis in the observation, measurement, and comparison of behaviour manifestations in specific situations.

This volume offers a fund of information to all those interested in the psychology of the child and his welfare.

A. K. GEDDES

**Hygiene and Public Health.** Louis C. Parkes, M.D. Eighth edition, revised by Henry E. Kenwood, C.M.G., M.B., and Harold Kerr, O.B.E., M.A., M.D. 823 pages, 91 illustrations. Price 21/- net. H. K. Lewis & Co., London, W.C.1, 1929.

The older generation of medical men, who as students wrought with the manual of Hygiene and Public Health of Dr. Louis C. Parkes, will scarcely recognize this eighth edition, a volume of over 800 pages, as the lineal descendant of the old well known text. The fourteen chapters into which the book is divided discuss all the important matters relating to public and personal hygiene, water supply, excreta and refuse, ventilation, warming and lighting, soils and building sites, climate and meteorology, food and beverages, personal hygiene, communicable diseases, disinfection, disposal of the dead, maternity and child welfare, school industrial and marine hygiene and a chapter on vital statistics. Comprehensive, without being tedious, it forms an admirable text and reference for the student and public health worker. Written primarily for use in Great Britain the references to the provisions of the Local Government Board and the Ministry of Health do not detract in the least from its value to readers in Canada.

This new enlarged edition brings the subjects up to date and will be welcomed by teachers and health workers everywhere as a presentation of the best in British practice.

J. H. ELLIOTT

**Public Health and Hygiene.** By various authors. Edited by William Hallock Park, M.D. Second edition. 902 pages, 123 illustrations. Price \$9.00. Lea & Febiger, Philadelphia, 1928.

This edition is much better than the first one, printed eight years ago. Much additional material has been inserted such as a new chapter on aseptic technique in the handling of contagious diseases. There is no other book on public health which deals with this subject so well, or which gives the proper technique in such minute detail. A new chapter has also been introduced on social hygiene and one on cancer from the public health standpoint; both are expected in a work of this kind.

Communicable diseases are treated in a concise and admirable manner, with a very appropriate introduction in the form of a general discussion on the relationship of bacteria to disease and the response of the body to such agents.

While perhaps the chapter on the sanitation of swimming pools and the one on soil have been omitted with advantage in this new edition, the same cannot be said with respect to that on housing. This was one of the few books that recognized the importance of this subject to the extent of assigning to it a separate chapter. It is regretted that Veiller's Housing is not found in this late edition. The subject of ventilation is well presented by Winslow; his remarks on the practical problems of ventilation are clear and convincing. The chapter on milk is very complete and contains con-

siderable new material on the relation of milk to tuberculosis. Bruce Robinson contributes a valuable chapter on mental hygiene. He discusses the mental hygiene work carried on in juvenile courts, in schools, colleges and with pre-school children, and stresses the importance of educating the teacher in the principles and practice of mental hygiene.

In the chapter on water supplies, there is practically no reference to purification of water on a small scale, a knowledge of which is very necessary for young medical graduates engaging as physicians to construction, lumber, or railway camps. The chapter on food laws and standards has been amplified to include the chief provisions of the present food laws, while some material rather too technical for students and health officers has been dropped. It is a disappointment that in the otherwise commendable chapter on public health work in rural communities there is not a more extended reference to county health units, the ever-increasing value of which is very generally recognized.

The book is well printed, the paper is excellent, the illustrations are neatly done, and a good index is provided. There are a few misprints and inaccuracies, due, no doubt, to hasty proof-reading. On the whole, the book is well-balanced and can be recommended to health officers, general practitioners, public health nurses and medical students.

R. ST. J. MACDONALD

**Spinal Anæsthesia.** Charles H. Evans, M.D., Clinical Assistant N.Y. Post-Graduate Medical School and Hospital. 193 pages and 42 illustrations. Price \$5.50. Paul B. Hoeber Inc., New York, 1929. With an introduction by W. Wayne Babcock and foreword by Charles Gordon Heyd.

In this manual the author considers at length the indications and contra-indications for this form of anæsthesia. Its advantages in obstetric cases are well considered. Its use is particularly recommended in certain emergency operations, particularly in crushing injuries of the lower extremities, where shock is invariably present. He points out its attenuating effect on this condition. How fairly high operations may be successfully performed is also shown.

He issues a warning on the danger of its use in septicæmia or inflammatory conditions and in those with low blood pressure. To combat the latter effect intramuscular injection of adrenalin is recommended. The choice of drug, the technique of injection, its diffusion and subsequent and varying effect on the blood pressure are clearly explained, as is also the reason for post-operative headache and other complications, with well considered means for their prevention and relief. Considerable stress is laid upon the psychological aspect of this method of anæsthesia.

The book is well printed in clear, large type, well illustrated and very readable. The bibliography is very complete. The index, however, might with advantage be somewhat fuller.

W. WEBSTER

**How to Stain the Nervous System.** J. Anderson. 149 pages. E. & S. Livingstone, Edinburgh, 1929.

This is a short book of neuro-histological methods which will commend itself to those who are responsible for the training of senior students and technicians. The "tips" on overcoming many of the disconcerting accidents which occur even to the best technician are evidently the results of much experience.

The special methods used by some investigators are included. The book is not an encyclopedia but a laboratory manual.

J. BEATTIE

#### PUBLICATIONS RECEIVED

**Fistula of the Anus and Rectum.** Charles John Drueck, M.D., F.A.C.S., Professor of Rectal Diseases Post-Graduate Hospital and Medical School, Chicago. 318 pages, 66 illustrations. Price \$4.00. F. A. Davis Co., Philadelphia, 1927.